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# Fertilizer Report

January 1 to July 31, 1919

JAMES W. KELLOGG, Chief Chemist

BUREAU OF CHEMISTRY



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FRED. RASMUSSEN, *Secretary of Agriculture*, Harrisburg, Pa.



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## LETTER OF TRANSMITTAL.

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### DEPARTMENT OF AGRICULTURE BUREAU OF CHEMISTRY

Harrisburg, Pa., January 28, 1920.

Hon. Fred. Rasmussen,  
Secretary of Agriculture,  
Harrisburg, Pa.

Dear Sir:—I have the honor to transmit herewith for your approval a report of the results of the inspection of commercial fertilizers during the Spring season of 1919, which shows the results of the chemical analyses of samples received from the authorized sampling Agents of the Department.

It is recommended that this report be published in bulletin form for distribution.

Very respectfully,

JAMES W. KELLOGG,  
Chief Chemist.



# FERTILIZER REPORT

January 1 to July 31, 1919.

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## INTRODUCTION

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The authorized special sampling Agents of the Department during the Spring season from January 1st to July 31st, 1919, obtained 1,457 samples of fertilizer from the selling agents throughout the State and forwarded them, together with a report covering each sample to the Bureau of Chemistry for analysis. Of this number 1,105, representing 625 different registered brands, the out-put of 85 manufacturing companies, were selected for analysis, each brand being represented by from one to three samples and analyzed separately. A number of samples representing brands where more than three samples were obtained by the Agents were not analyzed in order to avoid duplication and unnecessary work. Determinations were made upon each sample for moisture, nitrogen, total, available and insoluble phosphoric acid and water soluble potash where guarantees for these forms of plant food were shown upon sacks or attached cards for the purpose of determining whether or not these guarantees were correct. In addition to the chemical analyses certain brands were examined microscopically to determine if the brand names were properly shown where the word "bone" was used and whether or not untreated leather, hoof, horn and wool-waste were present, in which case when used, the sacks or attached cards are required to be labeled to show their presence. Only accidental traces of these untreated materials were found present and one brand, listed as bone meal, was found to be not entirely a bone product as a large amount of vegetable matter was detected. Also one sample labeled as a fish bone mixture was not properly branded as the phosphoric acid was not derived entirely from bone but was in part supplied by rock phosphate.

In order that the composition of like brands or classes of fertilizers might be compared the results of the analyses of the samples were arranged and tabulated in 6 groups or classes as follows: 371 Complete Fertilizers, furnishing nitrogen, phosphoric acid and potash; 411 Nitrogen and Phosphoric Acid Fertilizers, including dissolved and acidulated bone and fertilizers of similar character; 45 Ground

Bone Fertilizers, furnishing nitrogen and total phosphoric acid; 194 Acidulated Phosphate Fertilizers, furnishing available phosphoric acid; 60 Rock and Potash Fertilizers, furnishing available phosphoric acid and potash and 24 Miscellaneous Fertilizers, including 13 samples of Nitrate of Soda, 5 of Tankage and Barium Sulphate, Lime-Fertile, supplying a small amount of phosphoric acid, Success Plant Grower, containing upon analysis only 1.65 per cent. of potash, and 2 brands supplying nitrogen and phosphoric acid. Of the 1,105 samples analyzed, there were 282, or 25.5 per cent., which failed to contain the full amounts of plant food guaranteed. There were many samples deficient in one element where "overages" occurred which, in part, compensated for the guarantees not being sustained, however, the fact that one-fourth of the samples, representing the brands of fertilizers sold during the Spring season, were deficient indicates a material loss to the farmers and much room for improvement in stating correct guarantees. The greatest number of failures to meet the guarantees were in the Rock and Potash class where 58.3 per cent. of the samples were deficient. The continued shortage in potash has resulted in the brands of Nitrogen and Phosphoric Acid Fertilizers, offered for sale and registered with the Department, exceeding those of the Complete Fertilizers and the guarantees in the fertilizers supplying potash were low, there being only 9 Complete Fertilizers guaranteed 3 per cent. potash and 37 brands with 2 per cent. guarantees, the majority of the Rock and Potash Fertilizers being guaranteed 2 per cent. potash.

The retail selling prices of the various brands of fertilizers included in this report, based upon the information obtained from the selling agents, shows an increase over the values prevailing during 1917 and 1918. Compared with the Spring season's brands of 1918 the average retail prices were from \$3.60 to \$6.25 a ton higher for those sold during the period covered by this report as will be more clearly illustrated by the table included under "AVERAGE ANALYSES AND RETAIL PRICES." As has been shown in previous reports considerable variation in prices exist in brands of like classes or those possessing similar guarantees and containing like amounts of plant food. This fact is especially noticeable in the Complete Fertilizers where 61 different grades are included and where in brands having the same formula there were differences of from \$6.17 to \$24.00 a ton as will be observed by referring to the discussion of the Complete Fertilizers which follows. It is manifestly evident that it is necessary to compare the prices charged with the guarantees given if the largest return for the money invested is to be assured. In many instances the higher grades of fertilizers, or those supplying the larger number of pounds of nitrogen, phosphoric acid and

potash, to the ton can be purchased cheaper than the lower grades or low formula brands. In order to show the approximate retail unit values of nitrogen, phosphoric acid and potash from which the approximate values of a fertilizer can be estimated by applying these unit values to the formula guaranteed, they were estimated from the average analyses and retail selling prices prevailing for the Spring brands. These unit values were obtained in the following manner: The average retail selling prices of the Acidulated Phosphates was divided by the average available phosphoric acid giving the retail unit value for phosphoric acid. Deducting the value of the phosphoric acid thus obtained in the case of the Nitrogen and Phosphoric Acid Fertilizers from the average selling price and dividing the remainder by the average nitrogen, the unit value of this element was estimated. Using these unit values for nitrogen and phosphoric acid the unit value of potash in the Complete Fertilizers was secured. In a similar manner, having the value of phosphoric acid as supplied by the Acidulated Phosphates, the unit value of potash in the Rock and Potash Fertilizers was obtained for comparison and from this figure the unit value of nitrogen in the Complete Fertilizers was also secured. The approximate retail unit values estimated in this manner were as follows: Nitrogen from \$12.80 to \$13.00 a unit or from 64 to 65c. a pound; phosphoric acid \$1.79 a unit or 9 c. a pound; for potash from \$6.93 to \$7.16 a unit, or from 35 to 36c. a pound. These values, as would be expected from the increase in the average retail prices, are somewhat in excess of the unit values estimated in a like manner for the fertilizers included in the report for the corresponding Spring season of 1918.

In the following pages will be found copies of the Fertilizer Laws, a discussion of the main features noted for each class of fertilizers and tables showing in concrete form the results of analyses of samples.

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### ACKNOWLEDGMENTS.

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Mr. V. B. Hausknecht, First Assistant Chemist, had charge of the reception and preparation of the samples for analysis and supervision of the details of the analytical work, making duplicate and check determinations where required. Mr. H. E. Gensler made the microscopical examinations and aided in the analytical work and the chemical analyses of the samples were made by the following assistants: Messrs. William Weber, G. J. Kuhlman, Jr., F. B. Williams, C. R. Engle, D. W. Huber and W. W. Cassel. The moisture determinations were made by W. E. Huber, who also supervised the preparation of tables of analytical results.

## FERTILIZER LAW

As amended May 29, 1917.

No. 205.

## AN ACT

To regulate the manufacture and sale of commercial fertilizers; prescribing penalties for its violation, and repealing an act entitled "An act to regulate the manufacture and sale of commercial fertilizers; providing for its enforcement, and prescribing penalties for its violation," approved the twenty-fifth day of March, Anno Domini one thousand nine hundred and one.

Section 1. Be it enacted, &c., That all corporations, associations, partnerships, or persons, before selling or offering for sale any commercial fertilizer in the Commonwealth, except the dung of domestic animals, lime, marl and wood ashes, shall brand or attach to each bag, barrel, or package in a conspicuous place on the outside thereof, a plainly printed statement giving the following particulars and no others:—

- (1) The number of pounds of fertilizer contained in the package.
- (2) The name, brand, or trade-mark under which the fertilizer is sold.

(3) The name and principal address of the manufacturer, importer, or other person putting the fertilizer on the market in this Commonwealth.

(4) The minimum percentage of each of the following constituents which the fertilizer may contain: (a) Nitrogen; (b) nitrogen equivalent to ammonia; (c) total phosphoric acid; (d) available phosphoric acid; (e) potash soluble in distilled water. The potash may be claimed "derived from," or "equivalent to," sulphate of potash, if there is not a sufficient amount of chlorine present to unite with one-half ( $\frac{1}{2}$ ) of one per centum (1%) of actual potash ( $K_2O$ ). In the case of undissolved bone, tankage, phosphate rock, and similar materials in their natural and untreated conditions, when sold unmixed with other substances, the minimum percentage of the total phosphoric acid therein may be stated, instead of the percentage of total and available phosphoric acid. But, in the case of basic phosphatic slag, the available phosphoric acid shall be stated on the basis of the results of an analysis by the Wagner method, so-called, until such time as the Association of Official Agricultural Chemists of North America shall adopt an official method of analysis for basic slag, after which the available phosphoric acid shall be stated on the basis of an analysis by the method of said association.

Section 2. Every manufacturer or importer of commercial fertilizers, as specified in section one of this act, shall, on or before the first day of January of each year, or before offering them for sale in

this Commonwealth, file annually with the Secretary of Agriculture a statement of the names and number of brands of such commercial fertilizers, having distinct trade-names, that he shall offer for sale during the next ensuing year, and a copy of the analysis of each one of such brands of commercial fertilizers, as required by section one of this act.

Section 3. In addition to the statement required by section two of this act, every manufacturer or importer of commercial fertilizers shall, on or before the first day of January of each year, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture an affidavit showing the amount of each brand of fertilizer, having a distinct trade-name, sold within the Commonwealth during the last preceding year; and if the said amount shall be one hundred and fifty tons or less, he or they shall pay or cause to be paid to the Secretary of Agriculture the sum of fifteen dollars for each and every brand of such commercial fertilizer, having a distinct trade-name, sold within the State during the last preceding year; and if the said amount shall exceed one hundred and fifty tons, and be not more than two hundred and fifty tons, he or they shall pay the sum of twenty dollars, as aforesaid; if the said amount shall exceed two hundred and fifty tons, and not more than four hundred tons, he or they shall pay the sum of thirty dollars; if the amount shall exceed four hundred tons, and not more than five hundred tons, he or they shall pay forty dollars; and if the amount shall exceed five hundred tons, he or they shall pay fifty dollars. If such manufacturer or manufacturers, importer or importers, shall not have made any sales within the Commonwealth during the preceding year, he or they shall pay the sum of fifteen dollars upon each such brand, as aforesaid: Provided, That all moneys so received shall be immediately paid by the Secretary of Agriculture into the State Treasury for the use of the Commonwealth.

Section 4. No person shall sell, offer, or expose for sale, in this State, any pulverized leather, hair, ground hoofs, horns, or wool waste, raw, steamed, roasted, or in any form, as a fertilizer, or as an ingredient of a fertilizer or manure, without an explicit statement of the fact; said statement to be conspicuously affixed to every package of such fertilizer or manure, and to accompany and go with every lot, parcel, or package of the same.

Section 5. Any person or persons selling, offering or exposing for sale, any commercial fertilizer or any brand of the same, having a distinct trade-name, without the analysis required by section one of this act, or with an analysis stating that it contains a larger percentage of any one or more of the above-named constituents than is contained therein, or for the sale of which all the provisions of sec-

tions two and three have not been complied with, or any person violating any of the provisions of section four of this act, shall be guilty of a misdemeanor, and, on conviction, shall be sentenced to pay a fine of not less than twenty-five nor more than one hundred dollars for the first offense, and not less than two hundred dollars for each subsequent offense. It shall be the duty of the Secretary of Agriculture to enforce the provisions of this act, and all penalties, costs, and fines recovered shall be paid by him or his duly authorized agent, and by him shall be immediately paid into the State Treasury, for the use of the Commonwealth.

Section 6. The Secretary of Agriculture is hereby empowered to collect samples of commercial fertilizers, either in person or by his duly qualified agent or representative, and to have them analyzed, and to publish the results for the information of the public; and for this purpose the said Secretary of Agriculture, such assistants, agents, experts, chemists, detectives, and counsel as he shall duly authorize, shall have full access, ingress, and egress to and from all places of business, factories, barns, buildings, carriages, cars, and vessels, used in the manufacture and transportation, or sale, of any commercial fertilizer. They shall also have power to open any package or vessel containing or supposed to contain any commercial fertilizer and take therefrom samples for analysis, upon tendering the value of said samples.

Section 7. The term "commercial fertilizers," as used in this act, shall be construed to mean any and every substance imported, manufactured, prepared, or sold for fertilizing or manuring purposes, except the dung of domestic animals, marl, lime, and wood-ashes, and not exempt by the provisions of section one of this act.

Section 8. This act shall go into effect on and after the thirty-first day of July, one thousand nine hundred and nine; and the act entitled "An act to regulate the manufacture and sale of commercial fertilizers; providing for its enforcement, and prescribing penalties for its violation," approved the twenty-fifth day of March, Anno Domini one thousand nine hundred and one, is hereby repealed.

## BONE LAW.

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No. 95

## AN ACT

Making it unlawful for any person, firm, or corporation, engaged in the manufacture or sale of commercial fertilizers, to use the word "bone" in connection with, or as part of the name of, any fertilizer, or any brand of the same, unless the phosphoric acid contained in such fertilizer shall be the product of pure animal bone; and providing a penalty for violation of the same.

Section 1. Be it enacted, &c., That it shall be unlawful for any person, firm, or corporation, engaged in the manufacture or sale of commercial fertilizers, to use the word "bone" in connection with, or as part of the name of, any fertilizer, or any brand of the same, unless the phosphoric acid contained in such fertilizer shall be the product of pure animal bone.

Section 2. Any person or persons violating the provisions of this act shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall pay a fine of fifty dollars for the first offense, and a fine of not less than one hundred dollars, nor more than two hundred dollars for every subsequent offense; such fine or fines to be paid into the State Treasury, for the use of the Commonwealth. The Secretary of Agriculture shall, together with his deputies, agents, and assistants, be charged with the enforcement of this act.

Section 3. All magistrates, aldermen, and justices of the peace throughout this Commonwealth shall have jurisdiction to hear and determine actions arising from violations of the provisions of this act, and shall have authority to hold for court, or to impose the penalty hereby prescribed, subject to appeal, as the law shall direct.

Section 4. This act shall go into effect on the first day of January, Anno Domini nineteen hundred and ten.

APPROVED—The 23rd day of April, A. D. 1909.

EDWIN S. STUART.

## DISCUSSION OF THE RESULTS OF INSPECTION.

### COMPLETE FERTILIZERS.

Analyses in Table I.

Of the Complete Fertilizers analyzed supplying nitrogen, phosphoric acid and potash there were 371 samples including 221 different brands, the out-put of 60 Companies. The results obtained show that the farmers who made use of the shipments of these different brands, as represented by the samples analyzed, received in the majority of cases the amounts of plant food guaranteed although in many cases the selling prices given the special Agents were in excess of the values for the plant food furnished when compared with the prices of certain brands containing the larger amounts of nitrogen, phosphoric acid and potash. While, most of the guarantees were found correct and many "overages" noted there were 8 samples, or 2.2 per cent., deficient in nitrogen; 58, or 15.7 per cent., deficient in available phosphoric acid and 52 or 14 per cent., deficient in water soluble potash, or a total of 101 samples or 27.2 per cent. which failed to meet their guarantees in one or more elements. Of these failures to meet guarantees 86 were deficient in one element, 13 in two elements and 2 samples of one brand were deficient in the three forms of plant food. Compared with previous inspection seasons the number containing less nitrogen than guaranteed was one-half of the number of like deficiencies noted in the Spring inspection of 1918 and slightly less than these of the previous Fall inspection. The available phosphoric acid deficiencies were of approximately the same proportion as in the corresponding Spring season and slightly in excess of the Fall season, while the number running low in potash was twice as great as during the previous Spring and Fall seasons. The average composition of this class of fertilizers show but slight variations from those of several previous periods and there was no marked increase in the average content of potash over the amount contained in the same class of fertilizers examined during recent inspection seasons. The content of nitrogen ranged from .43 to 5.05 averaging 1.45 per cent.; the available phosphoric acid from 3.04 to 13.48, averaging 8.50 per cent., and the insoluble phosphoric acid was from .09 to 4.80 and averaged 1.19 per cent. There were 3 samples of one brand averaging 12.48 per cent., 2 of another brand with 8.35 per cent. insoluble phos

phoric acid which were not included in estimating the averages. The potash varied from .17 to 3.55 and averaged 1.27 per cent. In 75 samples the potash was determined as being present in the form of muriate, in 155 as being in the form of sulphate and 140 samples the results indicated the potash to be present in both forms. There were 11 samples where the brand name included the word "Tobacco" indicating that they were especially intended for tobacco growing in which the potash was in the sulphate form, 3 samples with potash as muriate and 3 where about one-third to one-fourth of the potash was in the form of muriate and the balance as sulphate of potash. The retail selling prices were from \$27.50 for a  $\frac{1}{2}$ -8- $\frac{1}{2}$  grade to \$80.00 for a 3-8-1 grade and averaged \$42.87 a ton. In estimating the average percentage composition and values, 2 brands were not included because of their dissimilarity from the usual grades of complete fertilizers as follows: There were 2 samples of Nitro-Fertile, a liquid fertilizer, which averaged 2.47 per cent. nitrogen; 3.36 per cent. phosphoric acid and 3.52 per cent. potash, which when sold in small quantities or in 10 ounce bottles had a selling price of approximately 55c. a pound; one sample of Walter's Crop Grower Fertilizer, analyzing .25 per cent. nitrogen, .27 per cent. total phosphoric acid, and .12 per cent. potash which sold for \$14.00 a ton and which contained a total of .64 per cent., or 12.8 pounds of plant food on the ton basis. The highest potash guarantee was 3 per cent. There were 37 brands with 2 per cent. potash guarantees and 13 with 3 per cent. guarantees compared with 27 brands with 2 per cent. and 9 brands with 3 per cent. guarantees in the Spring of 1918 and 18 brands with 2 per cent. guarantees in last Fall's brands.

There were 61 different grades, or formula fertilizers, included in this group from that of  $\frac{1}{4}$ - $\frac{1}{4}$ - $\frac{1}{8}$  to those having 6-8-2 and 4-10-3 formulas or containing 16 per cent. and 17 per cent., or 320 and 340 pounds of plant food to the ton respectively. Judging from the results of inspection the grade 1-8-1 was the most popular, there being 42 brands and 70 samples. The selling prices of this grade varied from \$32 to \$55 and averaged \$38.17 a ton, or a difference of \$6.17 for brands containing, upon analysis, almost exactly the same amount of plant food. For several brands of this grade manufactured by the same company, there were ranges in prices of from \$32.50 to \$50, or a difference of \$17.40 a ton. The 2-8-2 grade was represented by 14 brands and 24 samples and sold for \$48 to \$60, averaging \$51.72, or a difference of \$12 a ton. There were also 14 brands and 24 samples of the 1-8-2 grade which sold for from \$38.25 to \$50, averaging \$43.16, or a difference of \$11.75 a ton. Of the 1-10-1 grade there were 15 brands and 25 samples ranging in price from \$36 to \$60, both being manufactured by the same company, averaging \$42.18, or a difference

of \$24 a ton. There were 12 brands and 25 samples of the formula 1-7-1, which sold for from \$32.40 to \$50, averaging \$37.77, with a difference of \$17.60 a ton. The grade  $\frac{1}{2}$ -8-1 was represented by 11 brands and 26 samples and sold for from \$30.50 to \$40, averaging \$33.41, with a difference of \$9.50 a ton. The 2-10-1 grade included 9 brands and 13 samples, ranging from \$36 to \$55, averaging \$46.55, with a difference of \$19 per ton. The 2-9-1 grade included 9 brands and 12 samples with prices of from \$41 to \$47.50, averaging \$45.48, with a difference of \$6.50 a ton. Where a less number of samples of like brands with the same formula were analyzed similar differences in values were noted. As will be noted there were differences in retail selling prices of from \$6.17 to \$24 a ton in brands of fertilizers supplying exactly the same amounts of plant food. It may be possible that some of these wide variations in values were due to the prices charged by the selling agents to cover expenses of handling freight and other over-head charges rather than to the manufacturers' wholesale prices, however, these facts wherein such wide variations are shown is illustrative of the necessity of farmers paying especial attention to the different formula grades of complete fertilizers offered for sale and the prices charged in order that the larger amounts of plant food can be obtained for the least expense.

The selling prices of Complete Fertilizers included in this report, as above noted, were from \$27.50 to \$80 a ton, averaging \$42.87. The average price for Spring 1918 was \$38.59, ranging from \$22 to \$120 a ton while in the previous Fall season's goods the average ton price was \$38.99 and ranged from \$25 to \$71 a ton. It will be noted, therefore, that there has been a slight increase in the average values for the Spring season's complete fertilizers. The results of analyses of samples of brands of like formula and guaranteed to contain the same amounts of nitrogen, phosphoric acid and potash were averaged and together with those grades where only one sample was secured, and including the retail selling prices were tabulated for the purpose of comparing the average prices for the several grade of complete fertilizers examined and are included in the following table. Where only one or a few samples of a brand are shown the prices cannot be claimed to as fairly represent the values as would be the case in those brands represented by the larger number of samples, however, the results will be of interest in judging of the composition of the several grades together with their retail selling prices as obtained and reported by the special Agents.

Formula.	Number of Brands.	Number of Samples.	Nitro- gen.	Phos- phoric Acid.	Potash.	Price.
			%	%	%	
1/4-1/4-1/8, -----	1	1	0.25	*0.27	0.12	\$14 00
1/4-7-2, -----	1	1	0.66	7.67	2.31	35 00
1/2-6-1/2, -----	1	3	0.65	6.57	0.73	28 03
1/2-7-1/2, -----	1	2	0.70	7.05	0.85	29 00
1/2-7-1, -----	1	3	0.72	7.36	0.87	33 58
1/2-7-2, -----	1	2	0.62	7.77	1.94	36 13
1/2-8-1/4, -----	1	1	0.78	7.98	0.43	29 50
1/2-8-1/2, -----	5	6	0.78	8.41	0.55	29 71
1/2-8-1, -----	11	26	0.71	8.44	0.94	33 41
1/2-10-1, -----	2	3	0.66	9.99	0.96	36 50
1-4-1, -----	1	3	0.92	3.64	0.90	42 67
1-7-1, -----	12	25	1.09	7.59	1.05	37 77
1-7-2, -----	2	4	0.76	7.63	2.05	35 75
1-7-3, -----	2	4	0.94	7.24	3.10	43 12
1-8-1/2, -----	1	1	0.81	7.90	0.78	32 09
1-8-3/4, -----	1	3	1.03	7.95	0.84	34 45
1-8-1, -----	42	70	1.07	8.22	0.97	38 17
1-8-1 1/2, -----	1	1	0.70	8.07	1.65	45 00
1-8-2, -----	14	24	1.03	8.41	1.84	43 16
1-8-3, -----	1	2	1.11	7.46	1.88	47 50
1-9-1, -----	5	9	1.11	9.13	1.02	38 50
1-9-3, -----	3	6	1.14	9.17	2.91	49 52
1-10-1, -----	15	25	1.10	10.23	1.02	42 18
1-11-1, -----	1	2	1.10	11.48	1.02	41.50
1-12-1, -----	1	1	0.93	13.48	6.84	41 50
1 1/2-6-3, -----	1	1	1.61	6.61	2.73	51 00
1 1/2-7-2 1/2, -----	1	1	1.29	7.59	2.58	48 00
1 1/2-8-1, -----	1	1	1.31	8.27	0.25	41.00
1 1/2-9-3, -----	1	3	1.26	8.36	2.96	52 00
1 1/2-10-1, -----	8	13	1.45	10.15	1.05	44 12
1 1/2-9-1, -----	1	3	2.27	8.65	0.92	42 34
2-4-2, -----	1	1	1.81	4.16	1.22	50 00
2-6-3, -----	1	3	1.99	7.66	2.58	52 00
2-7-1, -----	1	1	2.11	7.08	1.09	53 00
2-8-1/2, -----	1	1	1.64	8.58	0.79	42 00
2-8-1, -----	7	13	1.89	8.06	1.09	45 82
2-8-2, -----	14	24	1.79	8.44	1.95	51 72
2-8-3, -----	2	5	1.89	8.31	2.65	57.25
2-8 1/2-1, -----	1	1	2.10	9.56	1.03	44 00
2-9-1, -----	9	12	2.01	8.99	1.02	45 48
2-10-1, -----	9	13	1.96	9.97	1.04	46 53
2 1/2-3-3, -----	1	2	2.47	3.36	3.52	-----
2 1/2-7 1/2-1, -----	1	1	2.28	6.51	0.76	50 60
2 1/2-8-1, -----	7	9	2.30	8.79	1.03	49 41
2 1/2-10-1, -----	2	2	2.60	9.96	1.31	50 00
3-6-1, -----	1	1	2.28	6.02	1.03	50 00
3-8-1, -----	4	7	2.44	8.25	1.28	61.67
3-9-1, -----	4	6	2.67	9.40	1.02	55 85
3 1/2-5-1, -----	1	1	2.68	5.84	0.37	47 00
3 1/2-6-1, -----	1	1	2.68	5.51	1.18	53 60
4-6-2, -----	1	1	2.80	6.07	2.37	65 00
4-8-1, -----	3	3	2.61	8.63	1.08	58 17
4-8-2, -----	1	1	3.35	8.76	1.20	63 00
4-9-1, -----	1	1	3.30	9.09	1.05	60 00
4-10-3, -----	1	1	3.14	10.40	2.85	50 00
4 1/2-8-1, -----	1	2	3.63	8.11	1.07	67 00
4 1/2-17-1/2, -----	1	2	3.14	9.93	0.18	49 59
5-5-2, -----	1	1	4.43	4.36	1.96	76 00
5-8-1, -----	1	1	4.38	8.65	1.15	69 00
5 1/2-3-1, -----	1	1	4.94	3.88	1.69	73 00
6-8-2, -----	1	3	4.84	8.41	2.65	-----
61 Totals, -----	221	371	1.45	8.56	1.27	\$42 87

\*Total phosphoric acid not in average.

†Liquid fertilizer not in average.

## NITROGEN AND PHOSPHORIC ACID FERTILIZERS.

Analyses in Table II.

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Of the fertilizers supplying nitrogen and phosphoric acid and including acidulated or dissolved bones and products of like composition classified as Nitrogen and Phosphoric Acid Fertilizers, there were 411 samples analyzed including 223 brands, the product of 67 Companies. While the fertilizers of this class were similar in that they were ammoniated phosphates and supplied nitrogen and phosphoric acid, they contained varying amounts of these elements, the nitrogen ranging from .26 to 6.13, averaging 1.58 per cent. and the available phosphoric acid was from 4.88 to 16.21, averaging 9.75 per cent. There were 2 samples containing 20 per cent. total phosphoric acid included in this class in which the phosphoric acid was not shown in the available form. One sample representing a brand sold as a fish bone mixture was improperly branded as the phosphoric acid contained therein was not entirely derived from bone but was in part supplied by rock phosphate. There was a wide range in the content of insoluble phosphoric acid of from .15 to 9.75, averaging 1.42 per cent. The selling prices were from \$24.00, in a brand analyzing .26 per cent. nitrogen and 6.28 per cent. available phosphoric acid, to \$80.00 in a brand containing 6.13 per cent. nitrogen and 9.27 per cent. available phosphoric acid and averaged \$37.99 a ton. The selling prices in this class of fertilizers in the Spring of 1918 were from \$18.65 to \$110.00, averaging \$33.22 a ton and in the previous Fall brands from \$21.50 to \$65.00 averaging \$34.21 a ton. Of those samples which, upon analysis, failed to meet their guarantees there were 28, or 6.8 per cent. deficient in nitrogen and 92, or 22.5 per cent. or nearly one-fourth of the total number, deficient in available phosphoric acid, a larger proportion of deficiencies than found in this class of products during the previous Fall and Spring seasons. Of this number 9 samples were deficient in both nitrogen and available acid and 83 deficient in available phosphoric acid alone and 19 in nitrogen alone.

## GROUND BONE FERTILIZERS.

Analyses in Table III.

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The samples of raw and steamed Ground Bone Fertilizers guaranteed for nitrogen and phosphoric acid received for analysis, numbered 45 samples and included 30 different brands, registered by 25 Companies. Two samples, or 4.4 per cent., were deficient in nitrogen and 8, or 17.8 per cent., were deficient in total phosphoric acid. The nitrogen varied from 1.88 to 4.83 averaging 3.14 per cent. and the total phosphoric acid varied from 12.77 to 29.10, and averaged 24.09 per cent. The selling prices were from \$35.00, in a sample containing 4.83 per cent. nitrogen and 22.25 per cent. phosphoric acid, to \$75 with a content of 3.99 per cent. nitrogen and 25.10 per cent. phosphoric acid, averaging \$53.81. One sample, No. 6638, was found to contain a large proportion of fibrous vegetable material and was therefore not entirely a pure ground bone. As is customary in Ground Bone Fertilizers, determinations were made for the degree of fineness indicating the proportion of the sample which was finely pulverized as those possessing a high degree of pulverization are more readily available for plant food. That portion passing a 1/50th of an inch mesh sieve was classed as "fine" and the portion not passing such a sieve was classed as "coarse." The results showed that the degrees of fineness were from 23 per cent. to 87 per cent., averaging 61 per cent. "fine" and from 77 per cent. to 13 per cent., averaging 39 per cent. "coarse."

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## ACIDULATED PHOSPHATE FERTILIZERS.

Analyses in Table IV.

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The materials resulting from the treatment of pulverized phosphate rock, or "floats," with sulphuric acid and classified as Acidulated Phosphate Fertilizers, or Acid Phosphates, analyzed during the Spring season, numbered 194 samples and included 93 brands from 51 Companies. They contained phosphoric acid in an available form and in addition were guaranteed for total phosphoric acid and in most cases the amounts of insoluble phosphoric acid were shown. There were 6 grades guaranteed for varying amounts of available

phosphoric acid, the number of brands and samples of each grade being as follows: 16 per cent. available phosphoric acid, 51 brands and 115 samples; 14 per cent., 33 brands and 65 samples; 13 per cent., 2 brands and 3 samples; 12 per cent., 5 brands and 9 samples; and 1 sample each of a 10 and 8 per cent. grade. The analyses show that they varied considerably in their composition and contained from 7.00 to 18.04 and averaged 15.58 per cent. available phosphoric acid. The retail selling prices were from \$22.00 to \$40.00, in samples analyzing the same, and averaged \$27.89 a ton. These average results indicate that the retail value of phosphoric acid for the Spring season would average \$1.70 a unit, or 9c. a pound. The average retail values for the previous Fall and Spring season's brands were \$25.89 and \$23.45 a ton respectively. There were 22 samples, or 11.3 per cent., deficient in available phosphoric acid, which was a less number than those deficient in the corresponding Spring season's samples and more than those of the previous Fall goods. The ranges in the insoluble phosphoric acid were from .06 to 3.78, averaging 0.77 per cent.

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## ROCK AND POTASH FERTILIZERS.

Analyses in Table V.

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The 30 brands furnishing available phosphoric acid and water soluble potash were classified as Rock and Potash Fertilizers and numbered 60 samples, representing the shipments from 22 Companies. They were guaranteed to contain from 8 to 12 per cent. available phosphoric acid and 50 were guaranteed 2.00 per cent. and 10, 1.00 per cent. of potash and analyzed from 7.72 to 13.93, averaging 10.21 per cent. available phosphoric acid and from .82 to 2.64, averaging 1.71 per cent. of potash. Two samples of 1 brand were not included in the averages which were guaranteed .50 per cent. and 2 per cent. and were found, upon analysis, to contain .19 and .41 per cent. available phosphoric acid and 1.64 and 1.61 per cent. potash respectively, selling for from \$80.00 to \$130.00 a ton according to the selling prices given by the retailing selling Agents. The retail prices for this class of fertilizers were from \$29.50 to \$50.00, averaging \$37.18 a ton. There were 16 samples or 26.7 per cent. deficient in available phosphoric acid and 24, or 40 per cent., deficient in potash and there were 5 samples deficient in both phosphoric acid and potash, 11 deficient in phosphoric acid alone and 19 deficient in potash alone, or a total of 35 samples or 58.3 per cent. which failed to meet their guarantees,

a far greater proportion of deficiencies than should be found. These deficiencies were somewhat less in the case of phosphoric acid than noted in the samples obtained during the corresponding Spring season and markedly in excess of the potash deficiencies and also considerably in excess of the deficiencies in both elements of plant food, compared with the previous Fall's brands of this class of fertilizers.

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## MISCELLANEOUS SAMPLES.

Analyses in Table VI.

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There were 24 samples of fertilizers classed as Miscellaneous including 8 brands and 13 samples of Nitrate of Soda, 4 brands and 5 samples of Tankage and 6 samples including 2 of Lime Fertile, a brand containing only 3 per cent. of phosphoric acid, and 1 each of Berg's Animal Bone and Meat, Swift's Tankage and Phosphate, Barium Phosphate and Success Plant Grower which contained only 1.65 per cent. of potash and sold for \$33.00 a ton. The samples of Nitrate of Soda averaged 15.51 per cent. nitrogen, with an average retail price of \$103.27. The brands of tankage averaged 6.05 per cent. of nitrogen, 12.21 per cent. total phosphoric acid and averaged \$74.40 a ton in selling price. Two samples of tankage were deficient in nitrogen and one sample of Lime Fertile was deficient in phosphoric acid.

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## DEFICIENCIES.

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A fertilizer is considered deficient if upon analysis the contents of nitrogen, phosphoric acid and potash are found to be .20 per cent. or more below the amounts guaranteed and in the cases of guarantees of .50 per cent. or less where they are found to fall .10 per cent. or more below the claims made. Of the 1,105 samples analyzed there were 313 cases where the nitrogen, total or available phosphoric acid and potash, or a total of 28.3 per cent., were below the guarantees and considered deficient. Of the total number there were 282 or 25.5 per cent. of the samples deficient in one or more forms of plant food, and in many, 2 or 3 deficiencies occurred in the same sample. In several the phosphoric acid was from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  and in a few instances 5 per cent. or more less than guaranteed and there were several cases wherein the potash was from .50 to 1.50 per cent. below the guar-

antees. Of those samples representing the Spring season's brands of fertilizers, therefore, more than one-fourth of them failed to contain the full amounts of nitrogen, phosphoric acid and potash guaranteed indicating a serious loss to the farmers in these cases. There were, of course, many "overages" which, in a measure, compensated for the deficiencies in those brands where only one element was less than claimed. The deficiencies in the main were in excess of those noted in the samples selected for analysis during several past seasons. Of the Complete Fertilizers there were 8, or 2.2 per cent., deficient in nitrogen, 58, or 15.7 per cent. deficient in available phosphoric acid and 52, or 14.0 per cent. deficient in potash, a total of 101 or 27.2 per cent. of the samples incorrectly guaranteed. There were 13 samples deficient in 2 elements and 2 where all three forms were less than claimed. A large number of deficiencies were found in the Nitrogen and Phosphoric Acid Fertilizers where 28, or 6.8 per cent., were low in nitrogen and 92, or 22.5 per cent. in available phosphoric acid, a total of 111 or 27 per cent. samples deficient. Of the Ground Bones 2, or 4.4 per cent., were deficient in nitrogen and 8, or 17.8 per cent. in total phosphoric acid making 10, or 22.2 per cent. of the samples of this class below the guarantees. There were 22 samples of Acidulated Phosphate, or 11.3 per cent., which were deficient in available phosphoric acid. The Rock and Potash brands showed the largest proportion and number of deficiencies as 16, or 26.7 per cent., were low in available phosphoric acid and 24, or 40 per cent., in potash, 5 being low in both constituents or a total of 35 or 58.3 per cent. which were deficient. Of the 24 Miscellaneous samples, 2 of Tankage, or 8.3 per cent., were low in nitrogen and one sample, or 4.2 per cent., was deficient in total phosphoric acid making a 12.5 percentage deficiency. The following table will show the number of cases in each class of Fertilizer where the guarantees were not sustained.

Classes of Fertilizers.	Number of samples.	Deficient in nitrogen.	Deficient in available phosphoric acid.	Deficient in potash.
Complete fertilizers, -----	371	8	58	52
Nitrogen and phosphoric acid fertilizers, -----	411	28	92	-----
Ground bone fertilizers, -----	45	2	*8	-----
Acidulated phosphate fertilizers, -----	194	-----	22	-----
Rock and potash fertilizers, -----	60	-----	16	24
Miscellaneous fertilizers, -----	24	2	*1	-----
Totals, -----	1,105	40	197	76

\*Total phosphoric acid.

## AVERAGE ANALYSES AND RETAIL PRICES.

The results of analyses of samples of each class or group of Fertilizers, together with their retail selling prices, were averaged and tabulated as follows:

	Complete fertilizers.	Nitrogen and phosphoric acid fertilizers (dissolved bone, etc.)	Ground bone fertilizers.	Acidulated phosphate fertilizers.	Rock and potash fertilizers
Number of samples, -----	371	411	45	194	60
Moisture, -----	% 7.14	% 6.45	% 6.35	% 7.05	% 6.37
Total nitrogen, -----	1.45	1.58	3.14		
Total phosphoric acid, -----	9.69	11.17	24.09	16.35	11.19
Available phosphoric acid, -----	8.50	9.75		15.58	10.21
Insoluble phosphoric acid, -----	1.19	1.42		0.77	0.98
Potash, -----	1.27				1.71
Mechanical analysis of bone:					
Fine, -----			51.00		
Coarse, -----			39.00		
Selling price, -----	\$42.87	\$37.99	\$53.81	\$27.89	\$37.18

The average composition of each class has remained constant during several past inspection seasons, the averages showing only slight variations and being almost identical with the average results obtained for the fertilizers of the corresponding Spring season of 1918. In the case of the Ground Bones the total phosphoric acid was 1 per cent. higher and they were more finely pulverized and in the Rock and Potash Fertilizers the phosphoric acid and potash averaged about 1.50 and 0.50 per cent. higher respectively. The average retail selling prices for each class were higher than those recorded for the Spring and Fall seasons of 1917 and 1918. In order that these values may be more readily compared the average retail selling prices for the last four inspection seasons, together with those obtained for the fertilizers analyzed during the season covered by this report, are shown in the following table. The average retail unit values as previously shown and as estimated from the average analyses and retail prices were approximately \$12.80 to \$13.00 for nitrogen, \$1.79 for phosphoric acid and from \$6.93 to \$7.16 for potash.

	1917.		1918.		1919.
	Spring.	Fall.	Spring.	Fall.	Spring.
Complete fertilizers, -----	\$28 33	\$30 26	\$38 59	\$38 99	\$42 87
Nitrogen and phosphoric acid fertilizers, -----	23 93	27 34	33 22	34 21	37 99
Ground bone fertilizers, -----	38 80	43 58	50 21	56 57	53 81
Acidulated phosphates, -----	17 56	20 68	23 45	25 89	27 89
Rock and potash fertilizers, -----	25 70	27 50	30 93	33 39	37 18

### KEY TO TABLES.

The following tables include the detailed results of chemical analyses of each sample. All samples were given a chemist's number as shown in the extreme left and right hand columns and are grouped in alphabetical order of manufacturers and brand names. Each class is shown in separate tables and the following information will serve as a key to these tables:

The asterisk (\*) indicates the cases where total nitrogen, available phosphoric acid and total potash are deficient to the extent of .2 per cent. or more below their respective guarantees. In cases where the guarantees are .5 per cent. or less the deficiencies noted are where the amount is .1 per cent. or more below the guarantees.

Order of results of analysis: Moisture, Total Nitrogen found and guaranteed, Total Phosphoric Acid found and guaranteed; Available Phosphoric Acid found and guaranteed; Insoluble Phosphoric Acid found and guaranteed; Total Potash found and guaranteed, and Potash as Muriate and as Sulphate.

To determine the formula of any brand, as guaranteed, multiply Total Nitrogen guaranteed by 1.2158 to obtain Ammonia and then use this figure and the guarantees for Available Phosphoric Acid and Total Potash. For example, Nitrogen guarantee equals .82% (.82x-1.2158=1%). Ammonia equals 1% Available Phosphoric Acid 8% Potash 1%. Formula therefore is 1-8-1.

Complete Fertilizers, Table I, furnishing Nitrogen, Phosphoric Acid and Potash.

Nitrogen and Phosphoric Acid Fertilizers, Table II, including Dissolved Bones and other like products.

Ground Bone Fertilizers, Table III, furnishing Nitrogen and Phosphoric Acid.

Acidulated Phosphate Fertilizers, Table IV, furnishing Phosphoric Acid.

Rock and Potash Fertilizers, Table V, furnishing Phosphoric Acid and Potash.

Miscellaneous Fertilizers, Table VI, including Nitrate of Soda and Tankage and 6 miscellaneous fertilizers.

TABLE NO. 1—  
Furnishing Nitrogen

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
<b>THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.</b>		
6824	Allen's Popular Phosphate, 1916, -----	Harvey Detwiler, Chester Springs, -----
5938	Allen's Popular Phosphate, 1916, -----	Greenwalt & Brennegoll, New Tripoli, -----
5782	Bradley's B. D. Sea Fowl Guano, 1916, -----	George Ifft & Son, Evans City, -----
5881	Bradley's B. D. Sea Fowl Guano, 1916, -----	E. H. Johnson, Ulster, -----
7034	Bradley's B. D. Sea Fowl Guano, 1916, -----	Schultz & Pardoe, Franklin, -----
6127	Bradley's New Method Fertilizer, 1916, -----	W. J. Bone, Varden, -----
5781	Bradley's New Method Fertilizer, 1916, -----	George Ifft & Son, Evans City, -----
6529	Bradley's New Method Fertilizer, 1916, -----	W. M. Major, Lehman, -----
6905	Bradley's Niagara Phosphate, -----	Anderson Hardware Co., New Bethlehem, -----
5725	Bradley's Special Tobacco Manure, 1916, -----	W. W. Gipple, Brunnersville, -----
6840	Canton Chemical Bakers Fish Guano, 1916, -----	S. Carl Garner, Hatboro, -----
6943	Canton Chemical Bakers Special Wheat, -----	H. L. Stultz & Bro., Altoona, -----
	Corn and Grain Mixture, 1916, -----	
6983	Canton Chemical Bakers Special Wheat, -----	W. B. Winey, Middleburg, -----
	Corn and Grass Mixture, 1916, -----	
6436	Canton Chemical Bakers Standard High Grade Guano, 1916, -----	King Brothers, Uniontown, -----
6323	Canton Chemical Harrow Brand Crop Grower, -----	Wm. Gates Estate, Kittanning, -----
6480	Canton Chemical Potato and Vegetable Manure, 1916, -----	Ruben Butz, Allentown, -----
6435	Canton Chemical Potato and Vegetable Manure, 1916, -----	King Brothers, Uniontown, -----
6611	Canton Chemical Potato and Vegetable Manure, 1916, -----	A. D. Trexler Sons, Trexler, -----
6728	Complete Potato Manure, -----	W. M. Major, Lehman, -----
6724	Corn and Vegetable Compound, -----	W. J. Bone, Varden, -----
6609	Crocker's Complete Manure, 1916, -----	E. D. Evert's Hardware Co., Warren, -----
6733	Crocker's Complete Manure, 1916, -----	Gibson & Clark Co., Indiana, -----
6217	Crocker's Complete Manure, 1916, -----	E. E. Trilby, West Middlesex, -----
6509	Crocker's General Crop Fertilizer, -----	E. D. Evert's Hardware Co., Warren, -----
6598	Crocker's General Crop Fertilizer, -----	L. A. Fisher & Co., Bradford, -----
6621	Crocker's Universal Grain Grower, 1916, -----	Hauck & Henry, New Berlinville, -----
6779	Crocker's Universal Grain Grower, 1916, -----	Wm. Hyland, Schuylkill Haven, -----
7084	Crocker's Universal Grain Grower, 1916, -----	S. C. Mensch, Marienville, -----
6304	Dead Shot Phosphate, 1916, -----	S. A. Fishburn, Harrisburg, -----
5689	Dead Shot Phosphate, 1916, -----	M. P. Flickinger, Lebanon, -----
5708	Dead Shot Phosphate, 1916, -----	J. W. Seifert, Dillsburg, -----
5776	Detrick's Corn and Oats Fertilizer, 1916, -----	H. F. Gelbach, Evans City, -----
6553	Detrick's Imperial Compound, 1916, -----	G. B. M. Baker, Abbottstown, -----
7044	Detrick's Kangaroo Komplete Kompond, 1916, -----	Harvey Yoder, Elk Lick, -----
5775	Detrick's Standard Potash Fertilizer, 1916, -----	H. F. Gelbach, Evans City, -----
6351	Eagle Phosphate, -----	A. H. Keeley & Sons, Schwenkville, -----
6856	Eagle Phosphate, -----	Franklin S. Lewis, Quakertown, -----
6429	W. S. Farmer & Co. Brand General Crop Grower, -----	Jeremiah F. Thomas, Bruceeton, -----
6454	W. S. Farmer & Co. Harvest Queen, 1916, -----	W. R. McCartney, Farmington, -----
6406	Great Eastern General, 1916, -----	J. H. Pucky, Rockhill Furnace, -----
6846	Great Eastern General, 1916, -----	Estate of George S. Snyder, Hatfield, -----
7061	Great Eastern General, 1916, -----	Alex. Trent, Coleman, -----
6847	Great Eastern High Grade Potato Fertilizer, 1916, -----	Estate of George S. Snyder, Hatfield, -----
6845	Great Eastern Special Crop Fertilizer, 1916, -----	Estate of George S. Snyder, Hatfield, -----
5899	Ludlam's Ceerops Fertilizer, C. & G. Brand, 1916, -----	Sechrist & Ihrig, York, -----
7047	Ludlam's Ceerops Fertilizer, C. & G. Brand, 1916, -----	N. B. Shober, Garret, -----
6169	Ludlam's Ceerops Fertilizer, Harvest Queen, 1916, -----	Sechrist & Ihrig, York, -----

## COMPLETE FERTILIZERS.

## Phosphoric Acid and Potash.

Moisture.	NITRO-GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.	
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.							
%	%	%	%	%	%	%	%	%	%	%	%	%	%	\$	
7.14	1.20	0.82	8.61	9.00	8.04	8.00	0.57	1.00	0.91	1.00	-----	0.51	38 00	6824	
5.57	1.11	0.82	8.46	9.00	7.95	8.00	0.51	1.00	*6.72	1.00	-----	0.72	36 00	5938	
10.32	1.04	0.82	11.62	11.00	10.17	10.00	1.45	1.00	0.53	1.00	0.66	0.33	44 00	5782	
6.89	0.83	0.82	11.37	11.00	10.08	10.00	1.29	1.00	0.57	1.00	0.66	0.37	39 25	5881	
6.56	1.08	0.82	11.71	11.00	9.96	10.00	1.75	1.00	1.07	1.00	0.80	0.27	55 00	7034	
6.93	1.14	0.82	8.67	9.00	7.99	8.00	0.63	1.00	1.03	1.00	-----	1.63	50 00	6727	
6.40	0.94	0.82	9.56	9.00	8.11	8.00	1.45	1.00	1.00	1.00	0.80	0.20	42 00	5781	
5.64	1.05	0.82	9.40	9.00	8.38	8.00	1.02	1.00	0.89	1.00	-----	0.89	32 50	6529	
3.44	1.26	0.82	8.50	8.00	7.20	7.00	1.30	1.00	1.63	1.00	1.03	-----	38 00	6905	
8.77	4.94	4.53	4.34	4.00	3.88	3.00	0.46	1.00	1.00	1.00	-----	1.60	73 00	5725	
3.69	2.13	1.65	10.73	10.00	8.98	9.00	1.75	1.00	1.04	1.00	0.80	0.24	45 00	6340	
8.47	1.29	0.82	10.12	10.00	9.05	9.00	1.67	1.00	0.91	1.00	0.91	-----	40 00	6943	
9.22	1.19	0.82	10.13	10.00	9.26	9.00	0.87	1.00	1.03	1.00	0.50	0.53	39 00	6983	
5.66	2.09	2.06	10.12	9.00	8.08	8.00	2.04	1.00	1.09	1.00	0.60	0.49	-----	6426	
6.25	0.88	0.82	9.95	9.00	8.52	8.00	1.45	1.00	0.89	1.00	-----	0.89	38 00	6323	
5.67	1.34	1.23	10.72	11.00	10.06	10.00	0.63	1.00	1.03	1.00	-----	1.03	39 00	6480	
7.80	1.45	1.23	11.85	11.00	10.03	10.00	1.82	1.00	1.03	1.00	0.50	0.53	48 00	6435	
8.74	1.45	1.23	10.91	11.00	10.16	10.00	0.75	1.00	1.14	1.00	-----	1.14	42 00	6611	
10.01	3.14	3.29	11.23	11.00	10.40	10.00	0.83	1.00	2.85	3.00	1.50	1.35	50 00	6528	
6.77	2.64	2.47	10.41	10.00	9.73	9.00	0.68	1.00	0.97	1.00	0.50	0.47	56 00	6724	
7.52	0.90	0.82	11.16	11.00	9.85	10.00	1.31	1.00	0.97	1.00	0.50	0.47	60 00	6300	
7.44	1.30	0.82	11.80	11.00	10.22	10.00	1.58	1.00	0.95	1.00	0.60	0.35	40 00	6733	
6.61	0.95	0.82	11.91	11.00	10.44	10.00	1.47	1.00	1.04	1.00	0.50	0.54	42 60	6217	
4.30	0.90	0.82	8.42	8.00	6.99	7.00	1.43	1.00	0.95	1.00	0.60	0.35	50 00	6599	
4.39	1.60	0.82	8.93	8.00	7.68	7.00	1.25	1.00	1.01	1.00	0.60	0.41	43 00	6598	
6.77	1.00	0.82	8.55	9.00	8.01	8.00	0.54	1.00	0.87	1.00	0.50	0.37	37 00	6321	
7.88	1.25	0.82	8.67	9.00	8.01	8.00	0.63	1.00	*0.79	1.00	-----	0.79	-----	6779	
4.00	0.90	0.82	9.27	9.00	7.97	8.00	1.30	1.00	1.01	1.00	0.60	0.41	37 00	7084	
3.95	0.54	0.41	9.39	9.00	8.38	8.00	1.61	1.00	1.03	1.00	0.50	0.53	32 75	6304	
5.10	0.54	0.41	8.27	9.00	*7.80	8.00	0.47	1.00	*0.62	1.00	-----	0.62	32 00	5689	
6.38	0.54	0.41	9.36	9.00	8.45	8.00	0.91	1.00	0.88	1.00	0.60	0.28	34 00	5708	
7.61	0.90	0.82	10.20	10.00	*8.69	9.00	1.51	1.00	0.92	1.00	0.70	0.22	40 00	5776	
7.85	0.90	0.82	10.43	11.00	*9.61	10.00	0.82	1.00	0.97	1.00	-----	0.97	36 00	6553	
10.00	1.88	1.65	10.77	11.00	10.39	10.00	0.38	1.00	1.28	1.00	-----	1.28	-----	7044	
9.33	1.13	1.23	11.48	11.00	10.04	10.00	1.44	1.00	1.05	1.00	0.52	0.53	45 00	5775	
5.96	2.08	0.82	8.87	8.00	8.00	7.00	0.87	1.00	1.91	1.00	0.90	1.01	40 00	6351	
6.02	1.20	0.82	8.61	8.00	8.19	7.00	0.42	1.00	1.00	1.00	-----	1.00	38 00	6856	
6.75	1.00	0.82	9.43	8.00	8.49	7.00	0.94	1.00	0.91	1.00	0.70	0.21	39 00	6429	
9.76	1.76	1.23	10.54	11.00	*9.77	10.00	0.77	1.00	1.07	1.00	0.70	0.37	48 00	6454	
6.81	1.19	0.82	9.20	9.00	8.05	8.00	1.15	1.00	0.85	1.00	0.60	0.25	-----	6406	
5.31	1.28	0.82	9.18	9.00	8.25	8.00	0.93	1.00	1.03	1.00	-----	1.03	36 60	6846	
6.21	1.23	0.82	9.68	9.00	8.72	8.00	0.96	1.00	1.00	1.00	-----	1.00	-----	7061	
8.16	2.07	1.65	10.61	11.00	*9.67	10.00	0.94	1.00	1.22	1.00	-----	1.22	46 00	6847	
8.63	1.38	0.82	10.68	11.00	*9.71	10.00	0.97	1.00	1.28	1.00	-----	1.28	38 00	6845	
8.73	0.78	0.41	8.90	9.00	7.88	8.00	1.02	1.00	0.86	1.00	-----	0.86	-----	5899	
5.50	0.74	0.41	9.46	9.00	8.64	8.00	0.82	1.00	0.89	1.00	0.89	-----	33 75	7047	
9.25	0.99	0.82	9.57	9.00	8.69	8.00	0.88	1.00	0.97	1.00	0.60	0.37	36 00	6169	

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6563	Maryland Ammoniated Phosphate, 1916,-----	E. S. Minnich, Brillhart, -----
6013	Maryland O. K. Ammoniated Fertilizer, 1916,-----	Samuel Heim, Pitman, -----
6834	Matchless Potash Manure, -----	I. M. Heyburn, Brandywine Summit, -----
5374	Matchless Potash Manure, -----	N. R. Yost, Myerstown, -----
6896	Milsom's Erie King Fertilizer, -----	Keystone Mills, Emporium, -----
6322	Milsom's Erie King Fertilizer, -----	McCauley & McKay Co., Brockwayville,-----
6213	Milsom's Special Buffalo Guano, -----	W. A. Bright, Greenville, -----
7115	Milsom's Special Buffalo Guano, -----	Frank Kreider, Fairview, -----
7101	Milsom's Wheat, Oats and Barley, 1916,-----	E. E. Hunter & Lewis, Hartstown, -----
6897	Milsom's Wheat, Oats and Barley, 1916,-----	Keystone Mills, Emporium, -----
6724	Moro-Phillips Pure Phaine, 1916,-----	R. W. Daub, Muir, -----
5675	North Western Complete Compound, 1916,-----	N. R. Yost, Myerstown, -----
5982	Perkins' Special Bono Manure, -----	Jerome Tingley, Coatesville, -----
6617	Read's All Crops Fertilizer, 1916, -----	Ainos Pennepacker, Barto, -----
6723	Read's Corn, Wheat and Rye, 1916,-----	Farmers Supply Co., Ariel, -----
6348	Read's Leader Fertilizer, -----	Simpson Brothers, Norristown, -----
5994	Reese's Ammoniated Phosphate Mixture, 1916,-----	S. P. Averdorff, Windsor, -----
6853	Reese's Challenge Crop Grower, 1916,-----	Harry Wilson, Frazer, -----
5901	Reese's Half and Half No. 1, -----	W. W. Hess, York, -----
6723	Royal Potash Mixture, -----	R. W. Daub, Muir, -----
6279	Royal Potash Mixture, -----	B. F. Hohl, Douglassville, -----
6247	Royal Potash Mixture, -----	Simpson Brothers, Norristown, -----
5942	Sharpless & Carpenter Farmers' Brand Phosphate, 1916,-----	Lewis L. Mosser, Mosserville, -----
6544	Sharpless & Carpenter Fish Guano, 1916,-----	Jonas Kunkle & Son, Orwigsburg, -----
6344	Sharpless & Carpenter Fish Guano, 1916,-----	Jos. R. Taggart, Norristown, -----
6545	Sharpless & Carpenter No. 1 Brand Phosphate, 1916,-----	Jonas Kunkle & Son, Orwigsburg, -----
6345	Sharpless & Carpenter No. 1 Brand Phosphate, 1916,-----	Jos. R. Taggart, Norristown, -----
5941	Sharpless & Carpenter Potato, Corn and Truck Guano, 1916,-----	Lewis L. Mosser, Mosserville, -----
6768	Sharpless & Carpenter Potato, Corn and Truck Guano, 1916,-----	L. C. Thompson Hardware Co., Pottsville,-----
6767	Sharpless & Carpenter Royal Spring Mixture, 1916,-----	L. C. Thompson Hardware Co., Pottsville,-----
5616	Sharpless & Carpenter Soluble Tampico Guano, 1916,-----	Jonas Kunkle & Son, Orwigsburg, -----
5672	Susquehanna Ammoniated Phosphate, 1916,-----	J. H. Kettering & Son, Palmyra, -----
5795	Susquehanna Potato and Tobacco Phosphate, 1916,-----	H. P. Passmore & Brother, Oxford, -----
5822	Tygart-Allen Star Brand Phosphate, 1916,-----	Harvey Detweiler, Chester Springs, -----
6823	Tygart-Allen Star Potato Grower, 1916,-----	Harvey Detweiler, Chester Springs, -----
6332	Wheeler's Royal Wheat Grower, -----	M. M. Weaver, Mountville, -----
6841	Williams' & Clark's Elk Brand, 1916,-----	W. H. D. Godshall, Colmar, -----
6042	Williams' & Clark's Special Prolife Crop Producer, -----	H. H. Sloat, Weatherly, -----
6145	Zell's Economizer Phosphate, 1916,-----	J. G. Ewing, Newton Hamilton, -----
6333	Zell's Hustler Phosphate, 1916,-----	D. A. Hankey, Parnassus, -----
5920	Zell's Hustler Phosphate, 1916,-----	G. B. Murphy, Red Lion, -----
AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.		
6062	American Emergency Special Compound,-----	Jones Evanson, Christiana, -----
5709	American Emergency Special Compound,-----	C. E. Glatfelter, Rossville, -----
6170	American Emergency Special Compound,-----	Burt Hoff, Seven Valleys, -----
6559	American Reliable Guano, -----	Alburtis Eisenhart, East Berlin, -----
ARMOUR FERTILIZER WORKS, BALTI- MORE, MD.		
7076	Crop Grower, 1-8-2, -----	Smith Brothers, Ridgway, -----
6375	Grain Grower, 2-8-2, -----	Geo. R. Thompson, Chatam Run, -----
5844	Wheat, Corn and Oats Special, 1-7-1,-----	Harvey Dutt, Bangor, -----

## FERTILIZERS—Continued.

Moisture.	NITRO- GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	\$	
8.27	1.83	1.65	10.47	10.00	9.41	9.00	1.06	1.00	1.00	1.00	0.60	0.40	46 00	6563
8.05	1.23	0.82	8.75	9.00	8.05	8.00	0.70	1.00	0.97	1.00	-----	0.97	-----	6013
10.25	2.07	1.65	9.57	9.00	8.70	8.00	0.87	1.00	*1.51	2.00	1.20	0.31	51 00	6584
10.09	1.93	1.65	9.39	9.00	8.64	8.00	0.75	1.00	2.02	2.00	-----	2.02	49 50	5674
4.63	1.32	0.82	9.10	8.00	7.52	7.00	1.58	1.00	1.20	1.00	0.80	0.40	41 00	6896
4.71	1.06	0.82	8.73	8.00	7.26	7.00	1.47	1.00	0.95	1.00	0.60	0.35	40 00	6922
5.91	1.00	0.82	12.32	11.00	10.53	10.00	1.79	1.00	0.93	1.00	0.60	0.33	50 00	6213
6.48	1.22	0.82	12.12	11.00	*9.72	10.00	2.40	1.00	1.07	1.00	0.50	0.57	40 00	7115
4.50	1.06	0.82	9.51	9.00	8.16	8.00	1.65	1.00	1.61	1.00	0.55	0.46	38 00	7101
4.62	1.03	0.82	9.31	9.00	*7.63	8.00	1.68	1.00	1.05	1.00	1.05	-----	41 75	6897
8.05	2.18	1.65	11.01	11.00	10.09	10.00	0.92	1.00	1.67	1.00	0.50	0.57	42 00	6124
9.03	1.19	0.82	9.34	9.00	8.46	8.00	0.97	1.00	1.09	1.00	-----	1.09	36 50	5675
9.82	0.88	0.82	9.08	9.00	8.29	8.00	0.79	1.00	0.93	1.00	-----	0.93	-----	5082
8.17	1.40	0.82	10.82	11.00	10.17	10.00	0.65	1.00	1.16	1.00	-----	1.16	-----	6617
5.62	2.13	1.65	10.00	10.00	9.34	9.00	0.63	1.00	1.01	1.00	0.60	0.41	45 00	6723
5.35	1.08	0.82	9.30	9.00	8.28	8.00	1.02	1.00	0.96	1.00	0.50	0.40	40 00	6348
12.39	0.93	0.82	10.98	11.00	10.18	10.00	0.80	1.00	0.93	1.00	-----	0.93	-----	5904
7.08	1.10	0.82	8.80	9.00	7.98	8.00	0.82	1.00	1.05	1.00	-----	1.05	36 00	6853
6.78	0.86	0.82	9.58	8.00	8.80	7.00	0.78	1.00	0.91	1.00	0.91	-----	-----	5901
7.65	1.23	0.82	8.76	9.00	8.03	8.00	0.73	1.00	*1.70	2.00	-----	1.70	47 00	6023
5.91	1.00	0.82	9.62	9.00	8.99	8.00	0.63	1.00	*1.57	2.00	-----	1.57	43 00	6279
4.83	1.17	0.82	9.11	9.00	8.17	8.00	0.94	1.00	*1.76	2.00	0.50	1.26	45 00	6347
9.00	1.11	0.82	9.61	11.00	*9.04	10.00	0.57	1.00	1.01	1.00	0.70	0.31	39 50	5942
8.60	2.45	2.03	10.13	9.00	9.28	8.00	0.85	1.00	1.03	1.00	-----	1.03	50 00	6544
7.69	2.16	2.06	10.46	9.00	9.12	8.00	1.34	1.00	1.03	1.00	-----	1.03	51 00	6344
8.32	2.10	1.65	9.57	10.00	9.02	9.00	0.55	1.00	1.10	1.00	-----	1.10	47 00	6545
7.68	1.95	1.65	9.55	10.00	*8.78	9.00	0.77	1.00	1.08	1.00	-----	1.08	47 50	6345
7.43	1.23	1.23	10.87	11.00	9.81	10.00	1.06	1.00	1.03	1.00	1.03	-----	43 50	5941
7.57	1.43	1.23	11.58	11.00	10.47	10.00	1.11	1.00	1.03	1.00	-----	1.03	47 00	6768
5.76	1.33	0.82	9.29	9.00	8.04	8.00	1.25	1.00	1.00	1.00	-----	1.00	47 00	6767
10.70	3.30	3.29	9.61	10.00	9.09	9.00	0.52	1.00	1.05	1.00	0.50	0.55	60 00	6546
10.56	1.83	1.65	10.87	10.00	9.63	9.00	1.24	1.00	0.91	1.00	0.60	0.31	-----	5672
7.78	2.29	2.06	10.20	9.00	9.18	8.00	1.02	1.00	0.90	1.00	-----	0.90	48 00	5795
8.27	2.40	2.06	9.82	9.00	8.76	8.00	1.06	1.00	1.12	1.00	-----	1.12	50 00	6822
9.20	1.57	1.23	10.73	11.00	9.98	10.00	0.75	1.00	1.22	1.00	-----	1.22	44 00	6823
6.83	1.85	0.82	9.57	9.00	8.70	8.00	0.87	1.00	1.32	1.00	0.70	0.62	38 00	6332
5.61	1.32	0.82	11.42	11.00	19.68	10.00	0.74	1.00	0.91	1.00	0.55	0.36	40 00	6841
7.51	1.05	0.82	9.41	9.00	8.58	8.00	0.83	1.00	1.00	1.00	0.60	0.40	-----	6042
5.39	1.59	0.82	9.40	9.00	8.48	8.00	0.92	1.00	1.02	1.00	0.70	0.32	37 00	6145
8.45	1.14	0.82	11.12	11.00	9.92	10.00	1.20	1.00	0.97	1.00	-----	0.97	44 00	6333
1.80	0.93	0.82	11.19	11.00	10.46	10.00	0.79	1.00	0.93	1.00	-----	0.93	36 00	5920
5.80	0.63	0.41	8.13	8.00	7.29	7.00	0.84	1.00	0.85	1.00	0.85	-----	33 00	6002
5.35	0.78	0.41	8.28	8.00	7.39	7.00	0.89	1.00	0.81	1.00	-----	0.81	34 75	5709
5.91	0.74	0.41	8.47	8.00	7.59	7.00	1.08	1.00	0.95	1.00	0.95	-----	33 00	6170
8.80	1.05	0.82	9.07	9.00	7.82	8.00	1.25	1.00	1.00	1.00	0.50	0.50	-----	6559
3.80	1.05	0.82	9.21	8.50	8.36	8.00	0.85	0.50	1.94	2.00	1.94	-----	50 00	7076
2.82	2.05	1.65	9.73	8.50	8.33	8.00	1.40	0.50	1.96	2.00	-----	1.96	51 35	6375
6.93	0.88	0.82	7.77	7.50	6.88	7.00	0.89	0.50	1.26	1.00	-----	1.26	37 00	5844

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6339	Wheat, Corn and Oats Special, 1-7-1,-----	Long & Co., Lititz, -----
6786	Wheat, Corn and Oats Special, 1-7-1,-----	I. G. Williams, Ariel, -----
	ATLANTIC FERTILIZER WORKS, (SWIFT & COMPANY, OWNERS), BALTIMORE, MD.	
5965	Atlantic Reliance Special Mixture, -----	M. Getty, Orangeville, -----
5961	Atlantic Standard Compound, -----	M. Getty, Orangeville, -----
	BALTIMORE FERTILIZER CO., BALTI- MORE, MD.	
6242	Honest Potato Grower, -----	J. N. Lightner, Gettysburg, -----
	BAUGH & SONS COMPANY, PHILA- DELPHIA, PA.	
7064	Baugh's Complete Animal Base Fertilizer,-----	F. D. Glessner, Boswell, -----
5986	Baugh's Complete Animal Base Fertilizer,-----	E. A. & James L. Pennock, Chatham, ---
6677	Baugh's Complete Animal Base Fertilizer,-----	Umble Brothers, Bird-in-Hand, -----
5812	Baugh's Durable Plant Food, -----	W. E. Ervin, Somerton, -----
6671	Baugh's Durable Plant Food, -----	Umble Brothers, Bird-in-Hand, -----
6673	Baugh's Fine Crop Grower for all Crops,-----	Umble Brothers, Bird-in-Hand, -----
6681	Baugh's General Crop Grower for all Crops,-----	B. E. & J. F. Cokely, Scranton, -----
6496	Baugh's General Crop Grower for all Crops,-----	S. K. Mohr, Coopersburg, -----
6855	Baugh's High Grade Potash Grower, Big Potato Brand.	S. K. Mohr, Coopersburg, -----
6410	Baugh's Special Potato Manure, -----	Briggs Brothers, Mt. Union, -----
5811	Baugh's Special Potato Manure, -----	Edw. W. Brinton & Son, West Chester,---
6913	Baugh's Special Potato Manure, -----	Routch & Swartzle, Clearfield, -----
5702	Baugh's Special Vegetable Compound, -----	Cook Grain, Feed & Supply Co., Dillsburg,
6087	Baugh's Special Vegetable Compound, -----	M. S. Graybill & Son, Bareville, -----
6344	Baugh's Special Vegetable Compound, -----	A. S. Tyson & Son, Lansdale, -----
	BOWKER FERTILIZER COMPANY, SUB- SIDIARY OF THE AMERICAN AGRI- CULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7096	Bowker's Farm and Garden Phosphate, 1916, Revised.	Kernochan & Co., Titusville, -----
5765	Bowker's Lawn and Garden Dressing, 1918,	H. J. Klingler & Co., Butler, -----
6909	Bowker's Lawn and Garden Dressing, 1918,	Reynoldsville Hardware Co., Reynoldsville,
7023	Bowker's Lawn and Garden Dressing, 1918,	Rochester Seed & Supply Co., Rochester,--
6719	Bowker's Staple Phosphate, 1916,-----	E. Cobby & Son, Moscow, -----
6339	Bowker's Staple Phosphate, 1916,-----	Mars Mig. & Feed Co., Mars, -----
7069	Bowker's Staple Phosphate, 1916,-----	Weaver & Berkey, Windber, -----
6792	Bowker's Sure Crop Phosphate, 1916,-----	George Farhart, Newfoundland, -----
6443	Bowker's Sure Crop Phosphate, 1916,-----	C. S. Hunter Co., Washington, -----
5887	Bowker's Sure Crop Phosphate, 1916,-----	H. M. Spaulding Sons, Troy, -----
5688	Bowker's Wheat and Corn Fertilizer,-----	M. P. Flickinger, Lebanon, -----
6825	Bowker's Wheat and Corn Fertilizer,-----	Harvey L. Moses, Chester Springs, -----
6384	Bowker's Wheat and Corn Fertilizer,-----	W. H. Weidensane, Millmont, -----
	THE CENTRAL CHEMICAL COMPANY (THOMAS FERTILIZER WORKS), HAGERSTOWN, MD.	
6397	C. C. C. Bone Mixture, -----	C. S. Chamberlain, Sabinsville, -----
6776	C. C. C. Bone Mixture, -----	Samuel Savidge, Valley View, -----
6947	C. C. C. Farmers Mixture, -----	M. R. Brumbaugh, Martinsburg, -----
6183	C. C. C. Golden Sheaf, -----	Francis Baker, Everett, -----
6246	C. C. C. Golden Sheaf, -----	Biglerville Warehouse Co., Biglerville, ---
6902	C. C. C. Golden Sheaf, -----	Ditz & Mooney, Clarion, -----
6971	C. C. C. Phoenix, -----	Nickles & Stewart, Shippensburg, -----

## FERTILIZERS—Concluded.

Moisture.	NITRO-GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	\$	
4.68	1.15	0.82	8.29	7.50	7.45	7.00	0.84	0.50	0.97	1.00	-----	0.97	38 00	6569
5.60	1.25	0.82	8.47	7.50	7.51	7.00	0.96	0.50	1.00	1.00	0.80	0.20	38 00	6786
6.33	0.84	0.82	8.20	8.00	*7.33	8.00	0.87	-----	0.91	1.00	0.91	-----	35 00	5965
8.75	1.59	1.65	9.80	8.00	8.49	8.00	1.31	-----	1.92	2.00	1.70	0.22	48 50	5961
7.75	1.64	1.60	9.13	9.00	8.58	8.00	0.55	1.00	0.79	0.50	0.79	-----	42 00	6264
7.66	2.03	1.65	11.54	10.00	10.09	10.00	1.45	-----	0.95	1.00	0.50	0.45	46 50	7064
8.95	1.69	1.65	11.14	10.00	9.86	10.00	1.28	-----	0.82	1.00	0.50	0.32	48 00	5986
6.38	1.98	1.65	11.01	10.00	10.03	10.00	0.98	-----	0.95	1.00	0.60	0.35	36 00	6677
9.55	1.91	1.65	9.44	8.00	8.61	8.00	0.83	-----	1.97	2.00	1.10	0.87	54 00	5813
8.95	2.04	1.65	9.76	8.00	8.64	8.00	1.12	-----	2.65	2.00	1.35	0.70	49 75	6071
8.64	1.31	0.82	9.62	8.00	8.71	8.00	0.91	-----	*0.76	1.00	-----	0.76	36 00	6973
7.71	1.08	0.82	9.12	8.00	8.13	8.00	0.99	-----	*0.79	1.00	-----	0.79	55 00	6981
6.75	0.88	0.82	8.76	8.00	7.83	8.00	0.83	-----	1.09	1.00	-----	1.09	38 00	6196
2.99	3.60	3.30	8.93	8.00	8.59	8.00	0.34	-----	1.00	1.00	-----	1.00	61.50	6855
9.50	1.90	1.65	11.26	10.00	10.23	10.00	1.03	-----	0.87	1.00	0.65	0.22	50 00	6410
8.20	1.96	1.65	11.26	10.00	10.49	10.00	0.77	-----	0.91	1.00	-----	0.91	50 00	5811
8.03	2.18	1.65	11.41	10.00	*7.83	10.00	3.58	-----	1.09	1.00	1.09	-----	48 00	6913
7.86	1.13	0.82	10.63	9.00	*8.74	9.00	1.89	-----	*2.00	3.00	2.00	-----	48 10	5762
9.98	1.20	0.82	11.05	9.00	9.30	9.00	1.75	-----	2.93	3.00	1.60	1.33	48 00	6067
9.20	1.10	0.82	10.93	9.00	9.34	9.00	1.59	-----	2.89	3.00	1.50	1.39	50 00	6844
6.78	1.89	1.65	11.58	11.00	10.69	10.00	1.49	1.00	1.01	1.00	-----	1.01	55 00	7096
5.50	2.49	2.47	†20.79	9.00	8.20	8.00	†12.59	1.00	1.12	1.00	0.50	0.62	80 00	5765
8.00	*2.25	2.47	†21.80	9.00	9.77	8.00	†12.63	1.00	1.22	1.00	-----	1.22	50 00	6969
6.63	2.53	2.47	†20.60	9.00	8.25	8.00	†12.35	1.00	1.12	1.00	0.50	0.62	80 00	7023
4.83	1.23	0.82	9.82	9.00	8.83	8.00	0.99	1.00	0.93	1.00	0.50	0.43	41 00	6719
5.36	1.05	0.82	9.87	9.00	8.02	8.00	1.85	1.00	1.00	1.00	0.50	0.50	40 00	6339
6.71	0.97	0.82	9.40	9.00	8.59	8.00	6.84	1.00	1.01	1.00	-----	1.01	40 00	7069
7.70	1.35	0.82	11.48	11.00	10.60	10.00	0.88	1.00	1.22	1.00	0.50	0.72	40 00	6792
9.22	0.96	0.82	11.41	11.00	10.01	10.00	1.40	1.00	0.97	1.00	0.60	0.37	45 00	6143
7.96	1.16	0.82	12.18	11.00	11.15	10.00	1.63	1.00	1.05	1.00	-----	1.05	40 00	5887
7.70	1.02	0.82	8.78	9.00	*7.80	8.00	0.98	1.00	*1.59	2.00	-----	1.59	42 00	5688
8.23	1.33	0.82	8.79	9.00	8.46	8.00	0.33	1.00	*1.71	2.00	-----	1.71	45 50	6825
9.41	1.09	0.82	9.52	9.00	8.83	8.00	0.69	1.00	*1.80	2.00	-----	1.80	42 00	6884
5.44	1.65	1.65	11.08	-----	8.40	8.00	2.68	-----	*1.03	2.00	-----	1.03	51 00	6397
6.62	1.52	1.65	8.07	-----	*7.30	8.00	0.77	-----	*1.25	2.00	1.25	-----	-----	6776
5.86	1.18	0.82	9.24	-----	8.04	8.00	1.20	-----	2.04	2.00	0.50	1.54	42 00	6947
5.95	1.11	0.82	9.77	-----	9.17	8.00	0.60	-----	1.35	1.00	-----	1.35	38 00	6183
3.23	0.89	0.82	8.79	-----	*7.64	8.00	1.15	-----	1.00	1.00	-----	1.00	36 50	6216
5.29	1.13	0.82	9.89	-----	8.68	8.00	1.21	-----	0.97	1.00	0.97	-----	38 06	6902
3.50	0.50	0.41	9.90	-----	8.87	8.00	1.53	-----	0.64	0.50	-----	0.64	29 00	6971

\*Deficient.

†Excluded from average.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6578	THE CHESAPEAKE CHEMICAL COMPANY, BALTIMORE, MD. Chesapeake ¼-7-2 Fertilizer, -----	J. C. Leib & Co., Stewartstown, -----
6118	GILES L. CLARK, SCRANTON, PA. General Crop Fertilizer, -----	Giles L. Clark, Scranton, -----
6019	THE COE-MORTIMER COMPANY, SUBSIDIRAY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y. E. Frank Coe's Columbian Corn and Potato Fertilizer, 1916. -----	Adam Heberling, Tower City, -----
6636	E. Frank Coe's Columbian Corn and Potato Fertilizer, 1916. -----	The I. W. Scott Co., Pittsburgh, -----
6106	E. Frank Coe's Columbian Corn and Potato Fertilizer, 1916. -----	G. B. Swartz, Madisonville, -----
6641	E. Frank Coe's Pennsylvania No. 1 Grain Special, 1916. -----	The I. W. Scott Co., Pittsburgh, -----
6276	COLUMBIA GUANO COMPANY, BALTIMORE, MD. Columbia Good Will Guano, -----	J. P. Fisher, Douglassville, -----
6315	THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y. Consumers All Crop Compound, -----	E. D. Greenawalt, Albany, -----
6333	Consumers All Crop Compound, -----	F. L. Thompson, Clark Summit, -----
6614	Consumers Ammoniated Potash Compound, -----	E. D. Greenawalt, Albany, -----
6365	Consumers Ammoniated Potash Compound, -----	H. C. Moyer, Blooming Glen, -----
6069	Consumers Ammoniated Potash Compound, -----	Overly & Good, New Holland, -----
6396	Consumers Complete Compound, -----	F. L. Thompson, Clark Summit, -----
6095	Consumers Pure Sure Potato and Vegetable (with 1% Potash). -----	F. L. Thompson, Clark Summit, -----
6602	DuBOIS FERTILIZER WORKS, INC., DuBOIS, PA. Corn Special, 1919, -----	L. A. Chase & Son, Russell, -----
5949	Grain Grower, 1919, -----	J. S. Cole, Millville, -----
6918	Grain Grower, 1919, -----	Curwensville Hardware Co., Curwensville, -----
7027	Grain Grower, 1919, -----	Farmers Supply Co., New Castle, -----
7026	Potato and Truck, 1919, -----	Farmers Supply Co., New Castle, -----
6693	Potato and Truck, 1919, -----	Peter Hause, New Columbia, -----
6050	AMOS EBY & CO., LEAMAN PLACE, PA. Pequea High Grade, -----	Clayton Rouck, Leaman Place, -----
6051	Pequea Special Potato, -----	Clayton Rouck, Leaman Place, -----
6052	Pequea Valley Fertilizer, -----	Clayton Rouck, Leaman Place, -----
6954	EUREKA CHEMICAL COMPANY, BALTIMORE, MD. Eureka Corn and Potato, -----	D. J. Beitzel, Mechanicsburg, -----
6102	Eureka Corn and Potato, -----	W. H. Nesbit, McConnellsburg, -----
5912	Eureka Corn and Potato, -----	E. L. Paules, York, -----
6955	Eureka Fish and Potash, -----	D. J. Beitzel, Mechanicsburg, -----
5685	FARMERS FERTILIZER WORKS, ELIZABETHTOWN, PA. Special Compound, -----	Abraham Garman, Elizabethtown, -----
5691	Special Compound, -----	Lebanon Hardware Co., Lebanon, -----

## FERTILIZERS—Continued.

Moisture.	NITRO- GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
% 4.59	% 0.66	% 0.21	% 9.55	% 8.00	% 7.67	% 7.00	% 1.88	% 1.00	% 2.31	% 2.00	% 0.96	% 1.41	\$ 35 00	6578
10.88	1.81	1.65	8.42	4.00	4.16	-----	4.26	-----	*1 22	2.00	0.80	0.42	50 00	6118
6.90	1.51	1.23	11.01	11.00	9.94	10.00	1.07	1.00	1.08	1.00	-----	1.08	43 00	6019
8.77	1.41	1.23	11.53	11.00	10.22	10.00	1.31	1.00	0.95	1.00	0.60	0.35	50 00	6636
8.34	1.53	1.23	11.29	11.00	10.56	10.00	0.73	1.00	1.04	1.00	0.60	0.44	38 00	6106
8.05	0.93	0.82	11.41	11.00	10.11	10.00	1.30	1.00	0.85	1.00	0.85	-----	45 00	6641
4.50	1.10	0.82	9.78	8.50	8.98	8.00	0.80	0.50	0.97	1.00	-----	0.97	36 75	6276
7.10	1.10	0.82	9.81	10.00	9.15	9.00	0.63	1.00	3.28	3.00	0.70	2.58	49 00	6515
7.79	1.13	0.82	10.26	10.00	9.75	9.00	0.51	1.00	3.14	3.00	0.70	2.44	49 00	6093
6.39	0.46	0.41	8.70	9.00	8.50	8.00	0.20	1.00	1.00	1.00	-----	1.00	35 00	6614
2.57	1.05	0.41	9.13	9.00	8.91	8.00	0.22	1.00	*0.60	1.00	-----	0.60	36 00	6865
3.95	0.93	0.41	10.24	9.00	8.44	8.00	1.80	1.00	1.20	1.00	-----	1.20	32 50	6069
9.27	2.25	1.65	9.04	9.00	8.95	8.00	0.09	1.00	2.07	2.00	-----	2.07	50 00	6096
3.95	3.85	3.29	9.98	9.00	8.62	8.00	0.36	1.00	1.03	1.00	-----	1.03	59 00	6095
5.85	0.70	0.82	8.84	9.00	8.07	8.00	0.77	1.00	1.65	1.50	-----	1.65	45 00	6602
2.31	1.26	0.82	11.33	7.30	10.22	7.00	1.11	0.30	*0.51	1.00	-----	0.51	35 50	5949
3.55	1.07	0.82	9.40	8.00	7.09	7.00	2.31	1.00	1.16	1.00	0.50	0.63	39 50	6918
4.80	0.95	0.82	9.29	-----	7.11	7.00	2.18	-----	1.18	1.00	-----	1.18	36 50	7027
7.81	*1.25	1.64	8.70	9.00	*7.74	8.00	0.96	1.00	2.11	2.00	-----	2.11	54 00	7026
5.28	1.75	1.63	8.23	9.00	*6.77	8.00	1.51	1.00	2.46	2.00	0.55	1.91	-----	6326
8.98	*2.68	2.89	6.86	8.00	*5.51	6.00	1.35	2.00	1.18	1.00	1.18	-----	53 00	6050
9.50	1.61	1.23	8.47	7.00	6.61	6.00	1.86	1.00	*2.73	3.00	2.73	-----	51 00	6051
7.03	1.96	1.64	12.45	12.00	10.49	10.00	1.96	2.00	1.05	1.00	1.05	-----	46 00	6052
4.62	1.14	0.82	8.74	8.50	7.94	8.00	0.80	0.50	0.87	0.75	0.87	-----	36 00	6954
7.48	1.11	0.82	8.06	8.50	8.00	8.00	0.63	0.50	0.88	0.75	0.88	-----	34 35	6402
4.73	0.83	0.82	8.81	8.50	7.92	8.00	0.89	0.50	0.76	0.75	0.76	-----	33.00	5912
6.20	0.78	0.41	8.73	8.50	7.98	8.00	0.75	0.50	0.43	0.25	0.43	-----	29 50	6955
7.50	1.08	0.82	9.21	9.00	8.34	8.00	0.87	1.00	2.36	2.00	1.20	1.16	-----	5685
9.15	1.05	0.82	9.94	9.00	8.87	8.00	1.07	1.00	1.89	2.00	0.65	1.24	45 00	5691

\*Deficient.

†Excluded from average.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE FERTILE CHEMICAL CO., CLEVELAND, OHIO.	
6334	Nitro Fertile, -----	J. S. Moore & Son, Oakdale, -----
6344	Nitro Fertile, -----	The I. W. Scott Co., Pittsburgh, -----
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
6283	Economizer, -----	A. A. Geiger, Joanna, -----
6365	Economizer, -----	Ezra Groff, Bareville, -----
6172	Economizer, -----	E. H. Sterner, Codorus, -----
6924	Royal Potash Guano, -----	Farmers Supply House, Punxsutawney, -----
6579	Royal Potash Guano, -----	J. C. Leib & Co., Stewartstown, -----
6166	Royal Potash Guano, -----	Geo. A. Wolf & Sons, Mt. Wolf, -----
6096	Tobacco Grower, -----	Ezra Groff, Bareville, -----
6576	Truckers Manure Substitute, -----	J. C. Leib & Co., Stewartstown, -----
	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
6336	Keystone Phosphate, -----	George H. Baker, Valencia, -----
6320	Keystone Phosphate, -----	John Chisholm, Mercer, -----
6687	Potato Manure, 1916, -----	J. R. Iddings, Mifflinburg, -----
5831	Reliable Potash Mixture, 1916, -----	Holmes Book, Mexico, -----
5826	Special Corn Manure, 1916, -----	D. Irvin Baisor, Mifflintown, -----
6740	Special Corn Manure, 1916, -----	John Gible, Lebanon, -----
5863	Special Corn Manure, 1916, -----	Harvey Werner, Windgap, -----
	M. P. HUBBARD CO., INC., BALTIMORE, MD.	
6284	Hubbard's Big Jim Compound, -----	A. A. Geiger, Joanna, -----
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
6537	Hubbard's English Compound, -----	F. H. Houseknecht, Conyngham, -----
5897	Hubbard's English Compound, -----	J. Emery Moul, Ironore, -----
6457	Hubbard's English Compound, -----	S. F. Rarig, Catawissa, -----
6538	Hubbard's 1-8-3 Fertilizer, -----	F. H. Houseknecht, Seybertsville, -----
6456	Hubbard's 1-8-3 Fertilizer, -----	S. F. Rarig, Catawissa, -----
	INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
6208	Buffalo General Favorite, -----	A. C. Daugherty, Grove City, -----
6392	Buffalo General Favorite, -----	E. H. Tucker, Colesburgh, -----
7037	I. A. C. Victory, -----	Clyde D. Duffee, Oil City, -----
	THE JARECKI CHEMICAL COMPANY, SANDUSKY, OHIO.	
7122	Lake Erie Guano with Phosphate and Potash, -----	F. F. Harrison, Edinboro, -----
7058	Lake Erie Guano with Phosphate and Potash, -----	S. S. Mosholder, Rockwood, -----
7032	Little Giant, -----	Eugene Burnett, Utica, -----
7121	Little Giant, -----	F. F. Harrison, Edinboro, -----
7114	Tobacco and Truck Grower, -----	M. Z. Sherman, East Springfield, -----
	KEYSTONE BONE FERTILIZER COMPANY, PHILADELPHIA, PA.	
6777	Keystone Corn and Cereal Grower, -----	Charles Schoffstall, Valley View, -----
6460	Keystone Royal Corn and Potato Manure, -----	S. F. Rarig, Catawissa, -----
6032	Keystone Royal Corn and Potato Manure, -----	Charles Schoffstall, Valley View, -----

## FERTILIZERS—Continued.

Moisture.	NITRO- GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	\$ 10 oz. ½ pt. ‡35c	
67.84	‡2.52	2.00	‡3.09	3.00	‡3.09	3.00	-----	-----	*‡2.54	3.00	-----	2.54	10 oz. ‡25c	6334
64.48	‡2.42	2.00	‡3.63	3.00	‡3.63	3.00	-----	-----	‡4.50	3.00	2.75	1.75	½ pt. ‡35c	6344
6.21	0.53	0.41	6.38	7.00	6.09	6.00	0.29	1.00	0.61	0.50	0.61	-----	28 00	6282
6.10	0.83	0.41	8.38	7.00	7.45	6.00	0.93	1.00	0.67	0.50	0.67	-----	28 50	6065
4.77	0.59	0.41	6.43	7.00	6.16	6.00	0.27	1.00	0.91	0.50	-----	0.91	27 60	6172
10.51	0.88	0.85	9.39	9.00	8.98	8.00	0.41	1.00	1.90	2.00	-----	1.90	45 00	6924
7.42	0.98	0.85	8.60	9.00	8.04	8.00	0.56	1.00	*1.55	2.00	-----	1.55	42 00	6579
8.57	1.18	0.85	9.22	9.00	8.85	8.00	0.37	1.00	*0.69	2.00	-----	0.69	43 00	6166
8.32	1.29	1.25	9.02	8.00	7.50	7.00	1.43	1.00	2.58	2.50	0.50	2.08	48 50	6068
8.33	2.68	2.75	6.54	6.00	5.84	5.00	0.70	1.00	*0.37	1.00	-----	0.37	47 60	6576
6.87	1.05	0.82	9.86	9.00	8.07	8.00	1.79	1.00	1.05	1.00	0.50	0.55	40 00	6336
5.20	0.88	0.82	9.98	9.00	8.50	8.00	1.48	1.00	1.00	1.00	0.50	0.50	38 00	6220
4.89	2.67	2.47	10.69	10.00	9.73	9.00	0.96	1.00	0.97	1.00	0.50	0.47	-----	6287
8.67	1.43	1.23	11.81	11.00	10.84	10.00	0.97	1.00	1.03	1.00	-----	1.03	-----	5831
5.10	1.08	0.82	10.65	10.00	9.51	9.00	1.14	1.00	1.00	1.00	1.00	-----	36 00	5826
7.56	1.28	0.82	9.10	10.00	*8.56	9.00	0.69	1.00	0.89	1.00	0.50	0.39	-----	6740
9.73	1.08	0.82	9.85	10.00	*8.66	9.00	1.19	1.00	1.30	1.00	1.30	-----	40 00	5833
6.03	0.63	0.42	9.01	9.00	8.42	8.00	0.59	1.00	1.25	1.00	-----	1.25	32 00	6284
4.60	0.93	0.82	9.25	9.00	8.36	8.00	0.89	1.00	*0.72	1.00	0.72	-----	42 60	6537
5.91	0.75	0.82	8.94	9.00	*7.80	8.00	1.14	1.00	1.23	1.00	1.23	-----	36 00	5897
5.91	1.10	0.82	9.52	9.00	*6.64	8.00	2.88	1.00	*0.78	1.00	0.78	-----	36 25	6457
8.45	1.62	0.82	9.43	9.00	8.20	8.00	1.23	1.00	*2.33	3.00	2.33	-----	46 00	6538
7.29	1.19	0.82	11.49	9.00	*6.71	8.00	4.78	1.00	*1.43	3.00	1.43	-----	49 00	6456
6.36	0.83	0.80	8.94	9.00	8.01	8.00	0.93	1.00	1.05	1.00	1.05	-----	41 60	6208
6.68	1.20	0.80	9.15	9.00	7.87	8.00	1.23	1.00	1.24	1.00	0.90	0.34	36 75	6892
6.37	0.95	0.80	9.44	9.00	8.33	8.00	1.11	1.00	1.32	1.00	1.32	-----	38 75	7037
11.40	1.09	0.82	12.63	12.00	11.32	11.00	1.31	1.00	1.63	1.00	0.75	0.28	44 00	7122
9.98	1.10	0.82	12.86	12.00	11.64	11.00	1.22	1.00	1.00	1.00	1.00	-----	39 00	7058
7.75	0.68	0.41	11.19	11.00	*9.72	10.00	1.47	1.00	0.91	1.00	-----	0.91	37 00	7632
8.41	0.73	0.41	11.43	10.00	10.09	10.00	1.34	1.00	1.09	1.00	0.75	0.34	-----	7121
13.39	1.03	0.82	11.86	9.00	10.48	8.00	1.38	1.00	2.17	2.00	2.17	-----	45 00	7114
7.16	1.93	1.65	10.41	9.00	8.75	8.00	1.66	1.00	*1.16	2.00	0.60	0.56	-----	6777
10.72	2.00	1.65	10.04	10.00	*8.06	9.00	1.98	1.00	2.00	1.00	0.80	1.20	45 25	6460
9.08	2.15	1.65	11.02	10.00	9.09	9.00	1.93	1.00	1.04	1.00	0.50	0.54	-----	6032

\*Deficient.

†Excluded from average.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
<b>KOLLER FERTILIZER COMPANY,</b> <b>SEITZLAND, PA.</b>		
5914	Koller's Ammoniated Phosphate, -----	A. P. Gable, York, -----
6571	Koller's Potato Grower Phosphate, -----	Summit Lumber Co., New Freedom, -----
6570	Koller's Special Potato Grower Phosphate, -----	Summit Lumber Co., New Freedom, -----
<b>THE LANCASTER BONE FERTILIZER</b> <b>COMPANY, LANCASTER, PA.</b>		
6282	Potato, Fruit and Vegetable, -----	Elias Geschmidt, Mohrsville, -----
6236	Potato, Fruit and Vegetable, -----	W. E. Gobrecht, Hanover, -----
5737	Potato, Fruit and Vegetable, -----	J. H. Long, Strasburg, -----
5738	Potato, Tobacco and Truck Manure, -----	J. H. Long, Strasburg, -----
<b>THE LANCASTER CHEMICAL COM-</b> <b>PANY, LANCASTER, PA.</b>		
6652	No. 2 Dewey Brand, -----	H. M. Stauffer, Leola, -----
5738	No. 19 Potato Special, -----	H. O. Brackbill, Strasburg, -----
6074	No. 19 Potato Special, -----	H. M. Stauffer, Leola, -----
6351	Tobacco and Vegetable, -----	H. M. Stauffer, Leola, -----
<b>THE LEBANON FERTILIZER WORKS,</b> <b>LEBANON, PA.</b>		
5681	Levan's General Crop Grower Fertilizer, -----	C. M. Brandt, Palmyra, -----
6754	Levan's General Crop Grower Fertilizer, -----	Gheen, Spigelmyer & Phleger, Antes Fort, -----
5682	Levan's Potato and Tobacco Fertilizer, -----	C. M. Brandt, Palmyra, -----
6753	Levan's Potato and Tobacco Fertilizer, -----	Gheen, Spigelmyer & Phleger, Antes Fort, -----
6033	Levan's Potato and Tobacco Fertilizer, -----	Hegins Grange, Hegins, -----
6290	Levan's Special Corn and Wheat Fertilizer, -----	A. F. Bayer, Hamburg, -----
6752	Levan's Special Corn and Wheat Fertilizer, -----	Gheen, Spigelmyer & Phleger, Antes Fort, -----
6329	Levan's Special Corn and Wheat Fertilizer, -----	David Houser, Palmyra, -----
<b>LISTERS AGRICULTURAL CHEMICAL</b> <b>WORKS, NEWARK, N. J.</b>		
5686	Listers 1-8-2 Fertilizer, -----	Isaac & Jacob Plasterer, Lebanon, -----
6495	Listers Golden Sheaf, 1916, -----	Robert D. Sames, Coopersburg, -----
6730	Listers Potato and Corn No. 2 Fertilizer, -----	W. S. Vansickler, Varden, -----
6494	Listers Special Crop Producer, 1916, -----	Robert D. Sames, Coopersburg, -----
6250	Listers Squirrel Brand Fertilizer, 1916, -----	John S. Redline, Walnutport, -----
5815	Listers Standard Pure Superphosphate of -----	W. E. Ervin, Somerton, -----
	Lime, 1916, -----	
5998	Listers Standard Pure Superphosphate of -----	Wm. H. Fritz, Berwyn, -----
	Lime, 1916, -----	
5919	Listers Standard Pure Superphosphate of -----	G. B. Murphy, Red Lion, -----
	Lime, 1916, -----	
<b>THE MAPES FORMULA &amp; PERUVIAN</b> <b>GUANO CO., NEW YORK, N. Y.</b>		
6253	Mapes Corn Manure (1916 Brand), -----	George Gangaware, Claussville, -----
6029	Mapes Corn Manure (1916 Brand), -----	P. H. Updegrave, Valley View, -----
5999	Mapes Potato Manure (1916 Brand), -----	Jos. R. Taggart, Norristown, -----
6030	Mapes Potato Manure (1916 Brand), -----	P. H. Updegrave, Valley View, -----
<b>THE MARTIN FERTILIZER CO.,</b> <b>PHILADELPHIA, PA.</b>		
5975	Martin's Bull Head Fertilizer, -----	Herbert S. Hausel, Upper Darby, -----
6838	Martin's Corn and Cereal Special, -----	R. E. Mason, Hatboro, -----
5976	Martin's Sure Grower, -----	Herbert Hausel, Upper Darby, -----
6568	Martin's Sure Grower, -----	J. F. & H. O. Newhouse, Glen Rock, -----
6341	Martin's Sure Grower, -----	H. R. Seibert, Gibsonia, -----
<b>THE MILLER FERTILIZER CO., BAL-</b> <b>TIMORE, MD.</b>		
6904	Club Brand, -----	John Phelps, Sugar Grove, -----
5915	Hustler Phosphate, -----	F. H. Shenberger, Red Lion, -----
6229	No. 1 Ammoniated, -----	R. A. Goodling, Loganville, -----

## FERTILIZERS—Continued.

Moisture.	NITRO-GEN.		PHOSPHORIO ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	\$	
12.76	1.00	0.82	9.72	8.50	8.20	8.00	1.52	0.50	1.02	1.00	1.02	-----	32 00	5914
15.80	0.85	0.82	9.87	7.50	8.68	7.00	1.19	0.50	2.27	2.00	2.27	-----	34 00	6571
14.02	0.94	0.82	8.78	7.50	7.39	7.00	1.39	0.50	2.83	3.00	2.83	-----	38 00	6570
6.89	0.86	0.82	9.13	9.00	8.15	8.00	0.98	1.00	0.97	1.00	0.97	-----	41 00	6282
3.52	0.95	0.82	9.63	9.00	*7.77	8.00	1.86	1.00	0.81	1.00	0.60	0.21	34 80	6236
6.00	1.29	0.82	9.73	9.00	8.63	8.00	1.10	1.00	*0.64	1.00	0.64	-----	43 00	5737
8.00	1.75	1.60	11.11	9.00	9.57	8.00	1.54	1.00	*0.31	1.00	-----	0.31	51 00	5736
5.62	1.31	1.23	11.06	9.00	8.27	8.00	2.79	1.00	*0.25	1.00	-----	0.25	41 00	6652
8.40	2.21	1.65	8.73	-----	*6.96	9.00	1.77	1.00	1.03	1.00	-----	1.03	45 00	5738
7.52	1.67	1.65	11.06	-----	*8.73	9.00	2.33	1.00	*0.17	1.00	0.17	-----	46 00	6074
6.00	2.28	2.06	8.51	8.50	*6.51	7.50	2.00	1.00	*0.76	1.00	-----	0.76	50 00	6651
5.22	0.89	0.82	9.29	8.00	7.16	7.00	2.13	1.00	1.12	1.00	-----	1.12	34 00	5681
4.00	1.00	0.82	9.71	8.00	7.55	7.00	2.16	1.00	1.14	1.00	-----	1.14	32 40	6754
6.54	1.24	1.23	8.92	10.00	*8.17	9.00	0.75	1.00	3.10	3.00	0.50	2.69	52 00	5682
7.54	1.35	1.23	9.49	10.00	*8.75	9.00	0.74	1.00	*2.69	3.00	-----	2.69	-----	6753
6.21	1.20	1.23	9.01	10.00	*8.16	9.00	0.85	1.00	3.09	3.00	-----	3.09	52 00	6033
5.69	0.79	0.82	9.72	9.00	8.18	8.00	1.54	1.00	2.00	2.00	-----	2.00	41 00	6290
7.17	0.86	0.82	9.40	9.00	8.20	8.00	1.20	1.00	2.23	2.00	-----	2.23	38 25	6752
4.20	0.79	0.82	10.13	9.00	8.32	8.00	1.81	1.00	2.65	2.00	-----	2.05	42 25	6629
10.63	0.94	0.82	9.17	9.00	8.54	8.00	0.63	1.00	1.84	2.00	0.80	1.04	-----	5886
7.00	0.64	0.41	8.81	9.00	8.07	8.00	0.74	1.00	1.02	1.00	-----	1.02	33 00	6495
9.40	2.63	2.06	12.03	11.00	*9.20	10.00	2.83	1.00	1.38	1.00	0.70	0.63	50 00	6730
8.61	0.93	0.82	9.59	9.00	8.84	8.00	0.75	1.00	1.05	1.00	0.50	0.55	38 00	6494
7.82	1.21	0.82	10.26	9.00	9.53	8.00	0.73	1.00	0.95	1.00	-----	0.95	36 50	6250
11.73	2.53	2.47	10.46	10.00	9.11	9.00	1.35	1.00	1.20	1.00	0.62	0.58	59 00	5815
7.15	2.73	2.47	10.46	11.00	9.31	9.00	1.15	2.00	0.89	1.00	-----	0.89	59 00	5998
8.67	2.56	2.47	10.05	10.00	9.18	9.00	0.87	1.00	0.97	1.00	-----	0.97	50 00	5919
6.78	2.36	2.47	11.02	10.00	7.81	8.00	3.21	2.00	0.94	1.00	-----	0.94	49 00	6253
7.53	2.65	2.47	10.24	10.00	*7.03	8.00	3.21	2.00	1.93	1.00	0.70	1.23	-----	6029
7.60	3.70	3.71	10.41	8.00	8.39	8.00	2.02	-----	1.00	1.00	0.50	0.50	67 00	5999
7.05	3.55	3.71	9.43	8.00	7.82	8.00	1.61	-----	1.14	1.00	0.60	0.54	-----	6030
10.55	*2.13	2.47	9.38	9.00	8.53	8.00	0.85	1.00	1.18	1.00	-----	1.18	60 00	5975
9.12	1.98	1.65	14.47	9.00	9.67	8.00	4.80	1.00	2.23	1.00	0.50	1.73	43 00	6838
7.54	0.90	0.82	8.94	9.00	*7.36	8.00	1.58	1.00	0.87	1.00	-----	0.87	40 00	5976
7.23	0.94	0.82	10.08	9.00	*7.27	8.00	2.81	1.00	*0.76	1.00	-----	0.76	36 00	6568
6.94	1.35	0.82	9.21	9.00	8.61	8.00	1.20	1.00	*0.74	1.00	-----	0.74	40 00	6341
9.27	0.58	0.41	8.85	8.50	8.28	8.00	0.57	0.50	0.59	0.50	0.59	-----	27 50	6304
10.23	0.81	0.82	8.41	8.50	7.90	8.00	0.51	0.50	0.78	0.50	0.78	-----	32 00	5915
7.23	1.76	1.65	9.52	8.50	8.07	8.00	1.45	0.50	2.04	2.00	0.50	1.54	48 00	6229

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6248	Potato and Vegetable Grower, -----	Biglerville Warehouse Co., Biglerville, ----
6070	Potato and Vegetable Grower, -----	W. H. Muth & Co., Lititz, -----
5755	Potato and Vegetable Grower, -----	H. L. Ort, Pennsdale, -----
6071	Special Tobacco Grower, -----	W. H. Muth & Co., Lititz, -----
6573	W. G. Phosphate, -----	J. P. Suchart, New Freedom, -----
7057	W. G. Phosphate, -----	Austin Walter, Garret, -----
	NASSAU FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
5852	Wheat and Grass Grower, 1916, -----	Emory Ott, Bangor, -----
6550	G. OBER & SON CO., BALTIMORE, MD. Ober's Independent Ammoniated Superphosphate.	D. Blocher & Company, Gettysburg, -----
	OYLER & SPANGLER FERTILIZER WORKS, INC., GETTYSBURG, PA.	
6171	Farmers Favorite, -----	Burt Hoff, Seven Valleys, -----
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BALTIMORE, MD.	
7003	Coon Brand Guano, 1916, -----	C. F. Haulon, Bentley Creek, -----
6311	Coon Brand Guano, 1916, -----	Mock & Hartman, Harrisburg, -----
6072	Coon Brand Guano, 1916, -----	W. M. Zook & Son, Rockville, -----
6092	Grange Mixture, 1916, -----	Summit Lumber Co., Clark Summit, -----
6746	Patapsco B. B. & P. Brand, 1916, -----	Wm. E. Boyer, Mooresburg, -----
6938	Patapsco B. B. & P. Brand, 1916, -----	K. L. McClain & Co., Tyrone, -----
6552	Patapsco B. B. & P. Brand, 1916, -----	E. C. Thomas, Gettysburg, -----
6800	Patapsco Columbian Guano for Truck, Potatoes and Tobacco, 1916.	W. H. Osburn, Sterling, -----
6041	Patapsco Fish Guano, 1916, Revised, -----	W. H. Gregory, Weatherly, -----
6115	Patapsco Fish Guano, 1916, Revised, -----	M. E. Jones, Moscow, -----
6742	Patapsco Money Maker, 1916, -----	D. G. Gross, Monocacy, -----
5711	Patapsco Plant Food with Potash, -----	H. P. Kocher, Wrightsville, -----
6312	Patapsco Special Early Trucker, 1916, -----	Mock & Hartman, Harrisburg, -----
6309	Patapsco Special Potato Manure, 1916, -----	Mock & Hartman, Harrisburg, -----
5710	Patapsco Tobacco and Potato Fertilizer, 1916.	H. P. Kocher, Wrightsville, -----
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
5930	Levering's Excelsior, -----	Amandrus Wotring, Schnecksville, -----
5929	Levering's Harvest Queen, -----	Amandrus Wotring, Schnecksville, -----
6155	Piedmont Insula Fish Guano, -----	Mrs. C. J. Saylor, Admr., Fallton, -----
6616	Piedmont Insula Fish Guano, -----	Alfred Siesholtz, Boyerstown, -----
6173	Piedmont Insula Fish Guano, -----	E. A. Slagle, Paxinos, -----
	PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA.	
6441	Keystone Fertilizer, -----	W. N. Acklin, Beallsville, -----
6446	Keystone Fertilizer, -----	Wm. H. Dunlap, Jr., Canonsburg, -----
6633	Keystone Fertilizer, -----	F. W. Scott, Hays, -----
	THE POLLOCK FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
5907	Ammoniated Superphosphate, 1916, -----	S. A. Barshinger, Red Lion, -----
6237	Corn and Oats Special, 1916, -----	J. W. Kelley, Littlestown, -----
6178	Corn and Oats Special, 1916, -----	Thomas B. Mielke, Alum Bank, -----

## FERTILIZERS—Continued.

Moisture.	NITRO-GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	\$	
5.52	1.80	1.65	9.32	8.50	*7.70	8.00	1.62	0.50	1.01	1.00	0.50	0.51	45 00	6248
8.81	1.94	1.65	9.48	8.50	*6.99	8.00	2.49	0.50	1.01	1.00	0.80	0.21	44 50	6070
7.98	1.70	1.65	9.34	8.50	8.09	8.00	1.25	0.50	1.09	1.00	1.09	-----	45 00	5755
6.51	2.11	1.65	7.74	7.50	7.08	7.00	0.66	0.50	1.09	1.00	1.09	-----	53 00	6071
10.60	0.70	0.41	7.78	7.50	7.10	7.00	0.68	0.50	0.72	0.50	0.72	-----	28 00	6573
7.67	0.69	0.41	7.60	7.50	7.00	7.00	0.60	0.50	0.97	0.50	0.97	-----	30 00	7057
9.38	1.03	0.82	9.50	9.00	8.79	8.00	0.71	1.00	0.93	1.00	-----	0.93	35 00	5852
7.35	1.33	0.82	9.71	9.00	8.63	8.00	1.08	1.00	1.16	1.00	0.50	0.66	37 00	6550
3.50	1.53	0.41	9.45	-----	9.05	8.00	0.40	-----	*6.21	0.50	-----	0.21	28 00	6171
7.87	0.95	0.82	10.72	10.00	9.37	9.00	1.35	1.00	1.22	1.00	1.22	-----	37 00	7005
7.84	0.95	0.82	10.65	10.00	9.76	9.00	0.89	1.00	1.05	1.00	0.80	0.25	38 00	6311
6.35	1.25	0.82	10.38	10.00	9.37	9.00	1.01	1.00	0.89	1.00	0.50	0.39	38 00	6072
4.07	2.15	1.65	12.30	10.00	10.51	9.00	1.79	1.00	0.87	1.00	0.87	-----	41 00	6092
5.85	0.80	0.41	8.85	9.00	7.97	8.00	0.88	1.00	0.84	1.00	-----	0.84	33 00	6746
4.10	0.74	0.41	9.20	9.00	8.24	8.00	0.96	1.00	0.82	1.00	0.82	-----	34 50	6988
5.62	0.80	0.41	9.98	9.00	8.99	8.00	0.99	1.00	0.95	1.00	-----	0.95	34 00	6552
7.62	2.90	2.47	10.31	10.00	9.35	9.00	0.96	1.00	1.10	1.00	-----	1.10	55 25	6800
6.98	1.24	0.82	12.21	11.00	11.14	10.00	1.07	1.00	0.88	1.00	0.50	0.38	40 00	6041
5.47	1.05	0.82	12.26	11.00	10.97	10.00	1.31	1.00	0.95	1.00	0.70	0.25	40 50	6115
7.00	1.28	0.82	8.87	9.00	8.37	8.00	0.50	1.00	0.97	1.00	-----	0.97	39 00	6742
11.17	0.94	0.82	9.12	9.00	8.49	8.00	0.63	1.00	*1.80	2.00	0.77	1.03	41 50	5711
5.85	4.38	4.11	9.35	9.00	8.67	8.00	0.70	1.00	1.15	1.00	0.60	0.55	69 00	6312
7.10	1.95	1.65	11.25	11.00	10.29	10.00	0.96	1.00	1.27	1.00	0.60	0.67	47 50	6309
9.63	2.25	2.06	9.17	9.00	8.32	8.00	0.85	1.00	1.05	1.00	-----	1.05	47 75	5710
5.42	0.95	0.82	8.27	9.00	*7.71	8.00	0.56	1.00	1.18	1.00	1.18	-----	35 00	5930
7.10	0.98	0.82	8.28	9.00	*7.64	8.00	0.64	1.00	1.86	2.00	1.86	-----	40 00	5929
7.47	0.83	0.41	7.95	8.00	7.41	7.00	0.54	1.00	2.17	2.00	2.17	-----	36 00	6155
5.75	0.69	0.41	8.06	8.00	7.26	7.00	0.80	1.00	1.92	2.00	1.92	-----	38 00	6316
6.63	0.65	0.41	8.15	8.00	7.17	7.00	0.98	1.00	1.84	2.00	1.84	-----	35 00	6473
8.88	2.23	1.43	11.42	11.00	*8.42	9.00	3.00	1.00	1.07	1.00	1.07	-----	38 00	6441
5.09	2.03	1.43	13.06	11.00	9.42	9.00	3.64	2.00	0.83	1.00	-----	0.83	48 00	6146
5.08	2.55	1.43	12.13	11.00	*8.11	9.00	4.02	2.00	0.87	1.00	-----	0.87	41 00	6333
6.90	1.93	1.65	10.57	10.00	9.38	9.00	1.19	1.00	1.61	1.00	0.78	0.23	47 00	5907
6.56	0.78	0.41	8.93	9.00	8.30	8.00	0.63	1.00	*0.78	1.00	-----	0.78	31 25	6237
7.69	0.76	0.41	9.25	9.00	8.55	8.00	0.70	1.00	0.91	1.00	-----	0.91	36 00	6178

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
7071	Corn and Oats Special, 1916, -----	Harry Shaffer, Windber, -----
7056	Corn, Wheat and Tomato Guano, 1916, ----	W. H. Frazer, Sand Patch, -----
6417	Corn, Wheat and Tomato Guano, 1916, ----	J. H. Scott, Petersburg, -----
7072	Corn, Wheat and Tomato Guano, 1916, ----	Harry Shaffer, Windber, -----
5906	Special Potato and Tobacco Fertilizer, 1916, -----	S. A. Barshinger, Red Lion, -----
7070	Special Potato and Tobacco Fertilizer, 1916, -----	Harry Shaffer, Windber, -----
RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.		
7081	Rasin's Capital Crop, Compound, -----	Leonard Ritter, St. Marys, -----
5838	Rasin's Emergency Royal Fish Bone and Potash, -----	Walter Book, Port Royal, -----
5823	Rasin's Half and Half Special, -----	Bradford & Son, Center Hall, -----
6225	Rasin's Half and Half Special, -----	A. G. Taylor, Glenville, -----
5837	Rasin's Royal Fish Bone and Potash, -----	Walter Book, Port Royal, -----
6468	Rasin's Royal Fish Bone and Potash, -----	Simon Carl, Numidia, -----
6547	Rasin's Royal Fish Bone and Potash, -----	A. F. Kimmel, Orwigsburg, -----
6738	Rasin's Royal Manure, -----	S. H. Donkel, Myerstown, -----
6858	Rasin's Royal Manure, -----	Henry K. Mohr, Quakertown, -----
5742	Rasin's Royal Manure, -----	A. H. Snyder, Strawberry Ridge, -----
6988	Rasin's Special for Tobacco Wrappers, -----	Jos. Shultz, Washington Boro, -----
5839	Rasin's United Grain Grower, -----	Walter Book, Port Royal, -----
READING BONE FERTILIZER CO., READING, PA.		
6795	Blood, Meat and Potash Mixture, -----	G. B. Correll, Greentown, -----
6374	Blood, Meat and Potash Mixture, -----	W. S. Peiffer, Salunga, -----
READING CHEMICAL COMPANY, READING, PA.		
6632	Old Standard, -----	M. G. Gingrich, Lebanon, -----
6775	Old Standard, -----	Samuel Savidge, Valley View, -----
6352	Old Standard, -----	Harvey B. Tyson, Schwenksville, -----
ROBERT A. REICHARD, ALLENTOWN, PA.		
6563	Farmers Choice, -----	Thomas Beltz, Lehighton, -----
6478	Farmers Choice, -----	J. H. Geisler, Trexlertown, -----
6623	Farmers Choice, -----	Schlegel, Adams & Co., Fleetwood, -----
6003	Special Manure, -----	Harry Steily, Sacramento, -----
6477	Surpass Phosphate, -----	J. H. Geisler, Trexlertown, -----
6259	Surpass Phosphate, -----	Lovine Lereh, Bethlehem, -----
6607	Surpass Phosphate, -----	Harry Steily, Sacramento, -----
REICHARD HIDE & TALLOW CO., ASHLAND, PA.		
6618	Reichard's Special, -----	Norman Bans, Landis Store, -----
6766	Reichard's Special, -----	Jno. Kunkle, Mahanoy City, -----
F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.		
6163	Royster's Cuckoo Crop Guano, -----	S. A. Barshinger, Red Lion, -----
6875	Royster's Cuckoo Crop Guano, -----	Henry S. Beidler, Doylestown, -----
5893	Royster's Cuckoo Crop Guano, -----	Farmers Supply Co., Milan, -----
6077	Royster's Dreadnaught Guano, -----	C. H. H. Bauman, Scranton, -----
6026	Royster's Fish, Flesh and Fowl Guano, ----	James Lucas, Valley View, -----
6799	Royster's Fish, Flesh and Fowl Guano, ----	C. F. Seig, Panther, -----
6164	Royster's Fish and Potash Guano, -----	S. A. Barsbinger, Red Lion, -----
7010	Royster's Fish and Potash Guano, -----	S. T. Ingham, Nicholson, -----
5968	Royster's Fish and Potash Guano, -----	Whitenight & Kschinka, Bloomsburg, -----
6162	Royster's Pennsylvania Potato Guano, -----	A. S. Barshinger, Red Lion, -----
6021	Royster's Pennsylvania Potato Guano, -----	Thomas A. Kuntzleman, Tower City, -----
5967	Royster's Pennsylvania Potato Guano, -----	Whitenight & Kschinka, Bloomsburg, -----

## FERTILIZERS—Continued.

Moisture.	NITRO-GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	\$	
4.56	0.72	0.41	9.02	9.00	8.27	8.00	0.75	1.00	0.93	1.00	0.60	0.33	35 00	7071
7.90	0.93	0.82	9.06	9.00	8.27	8.00	0.79	1.00	1.03	1.00	0.50	0.53	37 00	7056
7.98	1.08	0.82	9.21	9.00	8.28	8.00	0.93	1.00	0.93	1.00	-----	0.93	-----	6117
7.56	1.18	0.82	9.25	9.00	8.46	8.00	0.79	1.00	1.28	1.00	-----	1.28	40 00	7072
7.90	2.40	2.06	9.04	9.00	8.29	8.00	0.75	1.00	1.03	1.00	-----	1.03	50 00	5936
7.75	2.52	2.06	9.81	9.00	8.90	8.00	0.91	1.00	1.00	1.00	-----	1.00	52 00	7070
6.85	1.17	0.82	10.73	10.00	*8.74	9.00	1.99	1.00	3.20	3.00	1.60	1.60	53 00	7081
9.37	2.10	1.65	11.01	9.50	9.56	8.50	1.45	1.00	1.03	1.00	-----	1.03	44 00	5838
6.73	0.80	0.41	9.27	9.00	8.56	8.00	0.71	1.00	0.58	0.50	-----	0.58	30 75	5823
6.00	0.49	0.41	8.81	9.00	7.92	8.00	0.89	1.00	0.72	0.50	0.72	-----	28 00	6225
9.40	1.97	1.65	9.81	9.00	8.16	8.00	1.65	1.00	2.97	3.00	1.60	1.37	55 00	5837
11.00	1.93	1.65	10.56	9.00	8.26	8.00	2.30	1.00	*2.27	3.00	1.20	1.07	55 00	6463
9.13	1.70	1.65	10.55	9.00	8.46	8.00	2.09	1.00	2.87	3.00	1.40	1.47	-----	6547
4.64	0.72	0.41	9.16	9.00	8.08	8.00	1.08	1.00	1.05	1.00	-----	1.05	35 00	6738
8.70	1.13	0.41	10.27	9.00	9.42	8.00	0.85	1.00	1.33	1.00	1.36	-----	34 00	6858
6.25	0.69	0.41	9.30	9.00	8.28	8.00	1.02	1.00	0.89	1.00	0.89	-----	31 75	5742
7.78	4.43	4.11	5.28	10.00	*4.36	5.00	0.92	5.00	1.96	2.00	-----	1.96	76 00	6988
9.23	0.98	0.82	9.64	9.00	8.22	8.00	1.42	1.00	2.05	2.00	0.80	1.25	42 00	5839
10.05	2.39	1.64	9.59	9.00	8.06	8.00	1.53	1.00	2.31	2.00	2.31	-----	52 25	6795
6.55	1.90	1.64	11.08	9.00	9.14	8.00	1.94	1.00	1.96	2.00	1.96	-----	53 00	6654
3.13	1.78	1.64	8.75	9.00	8.00	8.00	0.75	1.00	*1.38	2.00	-----	1.38	-----	6332
8.57	1.53	1.64	12.63	9.00	10.26	8.00	2.37	1.00	2.64	2.00	2.04	-----	-----	6775
9.46	1.58	1.64	11.75	9.00	10.04	8.00	1.71	1.00	3.42	2.00	3.42	-----	54 00	6352
2.69	1.00	0.82	7.72	8.00	*6.73	7.00	0.99	1.00	0.96	1.00	-----	0.96	38 00	6503
1.88	1.08	0.82	8.23	8.00	*6.80	7.00	1.43	1.00	1.10	1.00	-----	1.10	36 00	6478
2.25	1.03	0.82	7.91	8.00	*6.80	7.00	1.11	1.00	0.91	1.00	-----	0.91	35 25	6323
6.18	*2.80	3.28	7.70	7.00	6.07	6.00	1.63	1.00	2.37	2.00	0.60	1.77	68 00	6003
8.97	1.58	1.64	9.57	9.00	7.98	8.00	1.59	1.00	2.09	2.00	-----	2.09	50 50	6477
6.94	1.54	1.64	9.86	9.00	8.19	8.00	1.67	1.00	2.24	2.00	-----	2.24	50 00	6259
7.23	1.59	1.64	9.53	9.00	7.91	8.00	1.62	1.00	2.13	2.00	-----	2.13	54 00	6007
5.06	*2.93	3.70	†18.18	-----	*9.89	17.00	†8.29	-----	*0.17	0.50	0.17	-----	-----	6318
4.61	*3.35	3.70	†18.38	-----	*9.96	17.00	†8.42	-----	*0.18	0.50	0.18	-----	49 50	6795
5.28	1.28	0.82	9.11	8.50	8.28	8.00	0.83	0.50	0.95	1.00	-----	0.95	38 00	6163
4.31	1.05	0.82	9.08	8.50	8.40	8.00	0.63	0.50	0.97	1.00	-----	0.97	36 00	6875
5.21	1.03	0.82	9.04	8.50	7.97	8.00	1.07	0.50	0.85	1.00	-----	0.85	36 00	5893
6.14	2.20	1.65	10.05	8.50	8.85	8.00	1.20	0.50	2.05	2.00	0.50	1.55	60 00	6077
7.39	1.81	1.65	9.52	8.50	8.18	8.00	1.34	0.50	*2.64	3.00	-----	2.64	59 00	6026
7.47	2.05	1.65	9.61	8.50	8.51	8.00	1.10	0.50	*2.48	3.00	-----	2.48	60 00	6799
4.27	2.06	1.65	8.73	8.50	7.94	8.00	0.79	0.50	0.87	1.00	0.50	0.37	46 00	6164
5.11	1.96	1.65	9.03	8.50	8.04	8.00	0.99	0.50	0.85	1.00	-----	0.85	48 00	7010
3.75	1.83	1.65	8.27	8.50	*7.54	8.00	0.73	0.50	0.95	1.00	-----	0.95	47 00	5933
6.23	2.30	1.65	7.56	6.50	6.63	6.00	0.93	0.50	2.91	3.00	-----	2.91	56 00	6162
7.52	1.89	1.65	9.10	6.50	8.11	6.00	0.99	0.50	*2.28	3.00	-----	2.28	42 00	6921
7.81	1.77	1.65	9.32	6.50	8.06	6.00	1.26	0.50	*2.55	3.00	-----	2.55	58 00	5967

\*Deficient.

†Excluded from average.

TABLE I.—COMPLETE

Chemist's number.		
	Name of Manufacturer and Brand.	Sample Taken From—
	<b>SCHALL-SHELDON FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BUFFALO, N. Y.</b>	
7109	Farmers Favorite, 1916, -----	H. J. Forbes, Albion, -----
6197	Farmers Favorite, 1916, -----	J. E. Jackson, Everett, -----
7111	Guano, 1916, -----	H. H. Forbes, Albion, -----
	<b>THE SCOTT FERTILIZER COMPANY, ELKTON, MD.</b>	
6514	Scott's Pennsylvania Potato Grower, -----	Nathan Bollinger, Palmerton, -----
6358	Scott's Pennsylvania Potato Grower, -----	C. E. Brackbill, Intercourse, -----
6659	Scott's Sure Growth Super Phosphate, -----	C. E. Brackbill, Intercourse, -----
6368	Scott's Wheat and Grass, -----	A. B. Groff & Son, New Holland, -----
	<b>SOIL-BAC LABORATORIES CO., WARREN, PA.</b>	
6320	Soil-Bac Inoculated Fertilizer, -----	Chas. S. Brunner, New Bloomfield, -----
6356	Soil-Bac Inoculated Fertilizer, -----	A. K. Kulp, Pottstown, -----
5917	Soil-Bac Inoculated Fertilizer, -----	F. H. Shunberger, Red Lion, -----
	<b>SWIFT &amp; COMPANY, BALTIMORE, MD.</b>	
7116	Swift's Diamond "K" Grain Grower, -----	Chas. D. Beckman, Fairview, -----
6630	Swift's Grain Fertilizer, -----	C. E. Brackbill, Intercourse, -----
6185	Swift's Red Steer, -----	Francis Baker, Everett, -----
7009	Swift's Red Steer, -----	F. I. Hillis, New Milford, -----
6384	Swift's Special Diamond "L", -----	M. F. Bailey, Wellsboro, -----
6507	Swift's Truck and Vegetable Fertilizer, -----	Edwin Dreisbach, Weissport, -----
6085	Swift's Truck and Vegetable Fertilizer, -----	Weeks Hardware, Scranton, -----
	<b>I. P. THOMAS &amp; SON CO., PHILA- DELPHIA, PA.</b>	
6128	Champion Guano, -----	Ira Harpster, Warriors Mark, -----
6959	Champion Guano, -----	David Hertzell, Mechanicsburg, -----
6327	Improved Fertilizer, -----	Ed. Shuey, Annville, -----
7040	Improved Fertilizer, -----	Menno J. Yoder, Meyersdale, -----
5083	Tip-Top Fertilizer, -----	E. S. Risser, Palmyra, -----
6016	Trucker's High Grade Manure, -----	J. E. Maurer, Pitman, -----
	<b>F. W. TUNNELL &amp; COMPANY, INC., PHILADELPHIA, PA.</b>	
6691	Monmouth's Pride Potato Manure, -----	Buffalo Valley Producers & Consumers Corp., Lewisburg.
	<b>THE J. E. TYGERT COMPANY, SUBSI- DIARY OF THE AMERICAN AGRICUL- TURAL CHEMICAL COMPANY, PHILA- DELPHIA, PA.</b>	
5867	Golden Harvest Phosphate, 1916, -----	Claude Brown, Walnut, -----
6359	Neptune Fish Compound, 1916, -----	W. H. Lenhard, Phoenixville, -----
5763	Neptune Fish Compound, 1916, -----	W. S. Sidler, Danville, -----
6870	Neptune Fish Compound, 1916, -----	Edwin F. Stover, Perkasio, -----
5893	Old Reliable Phosphate, 1916, -----	Claude Brown, Walnut, -----
5701	Prolific Phosphate, 1916, -----	Cook Grain, Feed & Supply Co., Dillsburg,
6631	Prolific Phosphate, 1916, -----	J. B. Longenecker, Annville, -----
6399	Special Potato and Tomato Guano, 1916, -----	Silas Farrell, Sizerville, -----
	<b>UNION CHEMICAL WORKS, INC., NORTH WALES, PA.</b>	
6821	Ideal Potato Manure, -----	John G. Zeigler, Limerick, -----

## FERTILIZERS—Continued.

Moisture.	NITRO-GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	\$	
3.81	1.23	0.82	10.17	9.00	8.56	8.00	1.61	1.00	1.01	1.00	0.65	0.56	40 00	7109
8.42	1.03	0.82	8.90	9.00	8.26	8.00	0.64	1.60	0.95	1.00	-----	0.95	39 00	6197
4.91	1.08	0.82	11.61	11.00	9.94	10.00	1.67	1.00	0.97	1.00	0.60	0.37	41 00	7111
9.80	0.86	0.82	8.66	10.00	7.88	8.00	0.78	2.00	2.02	2.00	2.02	-----	40 00	6514
3.83	1.10	0.82	9.59	10.00	8.05	8.00	1.54	2.00	*1.75	2.00	0.60	1.15	43 75	6358
5.23	1.83	1.65	11.37	10.00	9.66	8.00	1.71	2.00	1.18	1.00	0.50	0.68	45 50	6659
8.45	0.58	0.42	10.72	12.00	10.17	10.00	0.55	2.00	0.87	1.00	-----	0.87	36 00	6063
11.64	0.84	0.82	3.99	4.00	*3.43	4.00	0.56	-----	0.95	1.00	-----	0.95	41 00	6320
8.41	0.76	0.82	3.79	4.00	*3.04	4.00	0.75	-----	*0.72	1.00	-----	0.72	42 00	6356
16.18	1.15	0.82	5.22	4.00	4.45	4.00	0.77	-----	1.03	1.00	-----	1.03	45 00	5917
10.09	0.93	0.82	14.03	12.00	13.48	12.00	0.55	-----	0.84	1.00	0.84	-----	41 50	7116
5.81	1.25	0.82	9.40	8.00	8.11	8.00	1.29	-----	1.88	2.00	1.88	-----	44 25	6630
9.10	1.58	1.65	9.59	8.00	8.58	8.00	1.01	-----	1.92	2.00	1.92	-----	52 00	6185
7.55	1.54	1.65	9.80	8.00	8.22	8.00	1.58	-----	*1.71	2.00	1.50	0.21	50 00	7009
4.39	0.78	0.41	9.25	8.00	8.29	8.00	0.96	-----	0.57	0.50	0.20	0.37	35 00	6384
4.50	1.99	1.65	11.17	8.00	*6.88	8.00	4.29	-----	1.24	1.00	0.70	0.54	44 00	6507
3.71	1.83	1.65	11.24	8.00	*7.32	8.00	3.92	-----	1.07	1.00	0.50	0.57	-----	6085
11.37	2.10	1.65	10.09	8.50	*7.54	8.00	3.55	0.50	1.30	1.00	0.80	0.50	45 00	6128
10.08	1.85	1.65	9.86	8.50	7.88	8.00	1.93	0.50	1.07	1.00	1.07	-----	-----	6959
6.50	0.94	0.82	12.58	10.50	10.77	10.00	1.81	0.50	1.12	1.00	0.75	0.37	38 45	6627
5.45	1.34	0.82	12.35	10.50	10.49	10.00	1.86	0.50	1.26	1.00	0.80	0.50	36 35	7040
11.56	2.64	2.45	9.96	8.50	8.16	8.00	1.80	0.50	1.43	1.00	0.80	0.63	51 00	5682
12.38	3.38	3.25	10.10	8.50	8.68	8.00	1.42	-----	1.22	1.00	0.60	0.62	54 00	6016
6.34	3.35	3.30	10.47	9.00	8.76	8.00	1.71	1.00	*1.20	2.00	0.80	0.40	66 00	6391
7.44	1.10	0.82	9.33	9.00	8.48	8.00	0.88	1.00	0.97	1.00	-----	0.97	36 00	5867
6.70	1.21	0.82	7.92	8.00	7.15	7.00	0.77	1.00	0.83	1.00	-----	0.83	38 00	6359
7.88	0.93	0.82	8.02	8.00	7.28	7.00	0.74	1.00	0.85	1.00	6.60	0.25	5763	
5.71	1.10	0.82	8.93	8.00	8.33	7.00	0.60	1.00	1.09	1.00	-----	1.09	39 00	6870
8.12	2.18	2.06	9.90	9.00	9.16	8.00	0.74	1.00	1.02	1.00	-----	1.02	46 50	5863
9.00	1.03	0.41	9.78	9.00	8.80	8.00	0.93	1.00	0.96	1.00	0.96	-----	30 50	5701
5.55	0.77	0.41	9.55	9.00	9.04	8.00	0.51	1.00	1.01	1.00	-----	1.01	6931	
7.85	2.57	2.06	11.48	11.00	10.71	10.00	6.77	1.00	1.24	1.00	-----	1.24	50 00	6899
7.67	2.28	2.46	6.58	6.00	6.02	6.00	0.56	-----	1.03	1.00	-----	1.03	50 00	6821

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.		Sample Taken From—	
	VIRGINIA-CAROLINA CHEMICAL CO. OF DELAWARE, BALTIMORE, MD.			
6401	V. C. Champion Manure, -----		Roy Fletcher, Clearville, -----	
6513	V. C. Champion Manure, -----		David H. Green, Palmerton, -----	
6989	V. C. Champion Manure, -----		I. B. Musser, Terre Hill, -----	
6434	V. C. Plant Food for Vegetables, Lawns, Flowers.		Frisbee Hardware Co., Connellsville, -----	
6405	V. C. Plant Food for Vegetables, Lawns, Flowers.		Clay Park, Three Springs, -----	
6650	V. C. Plant Food for Vegetables, Lawns, Flowers.		A. J. Steele, Latrobe, -----	
	J. & R. WALTER, HANOVER, PA.			
6561	Crop Grower Fertilizer, -----		J. C. Bupp, York, -----	
	WASHINGTON, ALEXANDER & COOKE COMPANY, CHARLES TOWN, W. VA.			
5730	W. A. & C.'s Potato and Tobacco Manure, -----		Farmers Association, Quarryville, -----	
5716	W. A. & C.'s Potato and Tobacco Manure, -----		Spring Grove Farmers Cooperative Associa- tion, Spring Grove.	
5732	W. A. & O.'s Wheat, Corn and Oats Mix- ture.		Farmers Association, Quarryville, -----	
6549	W. A. & C.'s Wheat, Corn and Oats Mix- ture.		E. S. Kelley, Gettysburg, -----	
	THE W. E. WHANN CO., PHILADEL- PHIA, PA.			
6675	Whann Chester Valley Special Ammoniated Super Phosphate, 1916.		Umble Brothers, Bird-in-Hand, -----	
	THE ROBERT A. WOOLDRIDGE CO., SUBSIDIARY OF THE AMERICAN AG- RICULTURAL CHEMICAL COMPANY, BALTIMORE, MD.			
6566	Wooldridge's Farmers' Favorite Cereal Compound, 1916.		A. C. Dubs, Brillharts, -----	
7052	Wooldridge's Farmers' Favorite Cereal Compound, 1916.		Ross Sechler, Meyersdale, -----	
5745	Wooldridge's Farmers' Favorite Cereal Compound, 1916.		H. V. Smith, Turbotville, -----	
6686	Wooldridge's Special Potato and Tobacco Fertilizer, 1916.		C. C. Catherman, Hartleton, -----	
6685	Wooldridge's Triumph Brand Phosphate, 1916.		C. C. Catherman, Hartleton, -----	
	YORK CHEMICAL WORKS, YORK, PA.			
6557	Dempwolf's Half and Half, -----		D. E. Brandt, East Berlin, -----	
6965	Dempwolf's Half and Half, -----		Hershey Store Co., Hershey, -----	
6397	Dempwolf's Potato Manure, -----		M. D. Ebersole, Middletown, -----	
6015	Dempwolf's Potato Manure, -----		Felix Herb, Pitman, -----	
6695	Dempwolf's Potato Manure, -----		Putnam & Parker, Columbus, -----	
			Average, -----	

## FERTILIZERS—Concluded.

Moisture.	NITRO- GEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	\$	
7.62	0.61	0.41	9.39	9.00	8.18	8.00	1.21	1.00	0.85	1.00	0.85	1.10	33 00	6401
5.12	0.43	0.41	8.29	9.00	7.92	8.60	0.37	1.00	1.10	1.00	-----	1.10	33 00	6513
5.13	0.84	0.41	8.92	9.00	8.59	8.00	0.33	1.00	0.91	1.00	-----	0.91	40 00	6989
8.91	5.05	4.94	10.60	9.00	8.05	8.00	2.55	1.00	2.57	2.00	0.90	1.67	11 00	6434
9.60	*4.70	4.94	11.15	9.00	8.54	8.00	2.61	1.00	2.78	2.00	1.00	1.78	Sack 12 50	6405
10.50	4.76	4.94	10.61	9.00	8.63	8.00	1.98	1.00	2.60	2.00	1.00	1.60	Lb. 10 25	6650
†2.43	†0.25	0.17	†0.27	0.42	-----	-----	-----	-----	†0.12	0.12	-----	-----	†14 00	6561
2.85	0.55	0.41	7.22	8.00	*6.52	7.00	0.70	1.00	2.05	2.00	0.50	1.55	37 75	5730
6.11	0.69	0.41	9.58	8.00	9.01	7.00	0.57	1.00	1.82	2.00	-----	1.82	34 50	5716
5.15	0.65	0.41	9.95	9.00	9.52	8.00	0.43	1.00	0.85	1.00	-----	0.85	31 50	5732
4.47	0.59	0.41	8.36	9.00	8.00	8.00	0.36	1.00	0.86	1.00	-----	0.86	31 50	6549
6.25	1.20	0.82	8.29	9.00	*7.68	8.00	0.61	1.00	0.93	1.00	-----	0.93	36 00	6975
5.50	0.66	0.41	9.41	9.00	8.36	8.00	1.05	1.00	0.81	1.00	0.60	0.21	33 00	6566
5.30	0.68	0.41	9.38	9.00	8.49	8.00	0.89	1.00	0.93	1.00	0.50	0.43	32 00	7052
4.86	0.62	0.41	9.10	9.00	8.16	8.00	0.94	1.00	*0.79	1.00	0.79	-----	33 00	5745
3.95	1.88	1.65	11.19	11.00	10.09	10.00	1.10	1.00	1.06	1.00	1.03	-----	43 60	6086
6.46	1.64	1.23	11.32	11.00	10.19	10.00	1.14	1.00	0.97	1.00	0.70	0.27	41 95	6635
3.76	0.90	0.82	7.88	-----	7.36	7.00	0.52	-----	1.24	1.00	-----	1.24	34 50	6557
4.29	0.83	0.82	8.74	-----	8.13	7.00	0.61	-----	1.09	1.00	-----	1.09	38 00	6965
7.31	0.95	0.82	7.65	-----	7.20	7.00	0.45	-----	3.00	3.00	6.80	2.20	46 00	6307
7.96	1.09	0.82	7.70	-----	7.05	7.00	0.65	-----	3.03	3.00	6.80	2.23	6015	
6.39	0.76	0.82	7.60	-----	7.33	7.00	0.27	-----	3.55	3.00	-----	3.55	45 35	6605
7.14	1.45	-----	9.69	-----	8.50	-----	1.19	-----	1.27	-----	-----	-----	42 87	-----

\*Deficient.

†Excluded from average.

TABLE NO. II—NITROGEN AND  
Including Dissolved Bones

Chemist's number.	Name of Manufacturer and Brand.		Sample Taken From—	
	THE ALLENTOWN MANUFACTURING CO., ALLENTOWN, PA.			
6523	Amco Fertilizer, -----		O. K. Mantz, Andreas, -----	
6522	Quick Return Phosphate, -----		O. K. Mantz, Andreas, -----	
5858	Quick Return Phosphate, -----		E. J. Unangst, Nazareth, -----	
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.			
6262	Ammoniated Fertilizer A, -----		Milton Edelman, Nazareth, -----	
6879	Ammoniated Fertilizer A, -----		W. M. Sassaman, Ottsville, -----	
5771	Ammoniated Fertilizer A, -----		Thompson & Glenn, Butler, -----	
7051	Ammoniated Fertilizer AA, -----		Jefferson Altfather, Berlin, -----	
6722	Ammoniated Fertilizer AA, -----		Farmers Supply Co., Ariel, -----	
5939	Ammoniated Fertilizer AA, -----		Greenwalt & Brennegoll, New Tripoli, -----	
6760	Ammoniated Fertilizer AAAA, -----		Samuel Heisler, New Ringgold, -----	
6262	Ammoniated Super Phosphate, -----		Milton Edelman, Nazareth, -----	
6536	Ammoniated Super Phosphate, -----		F. H. Houseknecht, Conyngham, -----	
5774	1-8-0 Ammoniated Superphosphate, -----		H. F. Gelbach, Evans City, -----	
5880	Bradley's Economy Fertilizer, -----		E. H. Johnson, Ulster, -----	
7077	Bradley's Economy Fertilizer, -----		J. A. Stinbiser, Kersey, -----	
6107	Bradley's Economy Fertilizer, -----		W. H. Swartz, Moscow, -----	
5723	Bradley's Special Superior Compound Re- vised, -----		W. W. Gipple, Brunnersville, -----	
6994	Bradley's Special Superior Compound Re- vised, -----		J. G. Leighton, Tunkhannock, -----	
6109	Bradley's Special Superior Compound Re- vised, -----		W. H. Swartz, Moscow, -----	
6725	Bradley's Truckers Delight, -----		W. J. Bone, Varden, -----	
5724	Bradley's Truckers Delight, -----		W. W. Gipple, Brunnersville, -----	
6378	Josiah Cope & Co's Ammoniated Fertilizer A, -----		John Habbaker, Rohrerstown, -----	
5696	Josiah Cope & Co's Ammoniated Fertilizer A, -----		J. J. Jacobs, York Springs, -----	
5671	Josiah Cope & Co's Ammoniated Fertilizer A, -----		J. H. Kettering & Son, Palmyra, -----	
5695	Josiah Cope & Co's Ammoniated Fertilizer AA, -----		J. J. Jacobs, York Springs, -----	
5799	Josiah Cope & Co's Fish Guano, -----		O. W. Shortlidge, Lincoln University, -----	
5697	Josiah Cope & Co's Fish Phosphate, -----		J. J. Jacobs, York Springs, -----	
6445	Crocker's Farmers' Choice, -----		Bentleyville Hardware Co., Bentleyville, -----	
6734	Crocker's Farmers' Choice, -----		Gibson & Clark Co., Indiana, -----	
6584	Crocker's Farmers' Choice, -----		M. H. Kelly, Smethport, -----	
6851	Detrick's Ammoniated Super Phosphate, -----		John McCandless, Norristown, -----	
6349	Diamond Wheat & Grass Special, -----		Simpson Brothers, Norristown, -----	
6312	Diamond Wheat & Grass Special, -----		A. D. Trexler Sons, Trexler, -----	
6428	W. S. Farmer & Co's Brand All Crop Mixture No. 1, -----		Jeremiah F. Thomas, Bruceton, -----	
6156	W. S. Farmer Co's Brand All Crop Mixture No. 2, -----		Manifold & Wallace, High Rock, -----	
6181	Ludlam's Ccerops Fertilizer Bono Manure, -----		D. B. Griffith, Wolfsburg, -----	
7055	Ludlam's Ccerops Fertilizer Bono Manure, -----		West Salisbury Feed Co., West Salisbury, -----	
6365	Ludlam's Ccerops Fertilizer Sickle Fertilizer No. 1, 1916, -----		Ray Albright, Cochranville, -----	
5703	Ludlam's Ccerops Fertilizer Sickle Fertilizer No. 1, 1916, -----		C. E. Bushy, Clear Springs, -----	
5898	Ludlam's Ccerops Fertilizer Sickle Fertilizer No. 2, 1916, -----		Milton Weiman, Dover, -----	
7103	Milsom's Golden Eagle, -----		S. T. McQuiston, Meadville, -----	
6502	Milsom's Potato Producer, -----		Aaron Zimmerman, Lehighton, -----	
6919	Milsom's Special Phosphate, -----		W. D. Gates, Curwensville, -----	

## PHOSPHORIC ACID FERTILIZERS.

and Other Like Products.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
18.36	2.00	1.65	10.40	10.00	*5.44	6.00	4.96	4.00	40.00	6523
5.90	0.85	1.03	11.66	10.60	10.37	10.00	1.29	-----	36 00	6522
4.41	1.09	1.03	11.39	10.00	*4.88	10.00	6.51	-----	per lb. 3c	5858
3.95	1.06	0.82	11.07	11.00	10.05	10.00	1.62	1.00	31 00	6260
4.45	1.30	0.82	10.91	11.00	10.00	10.00	0.91	1.00	35 00	6879
6.00	0.98	0.82	12.12	11.00	10.17	10.00	1.95	1.00	36 00	5771
9.45	2.09	1.65	11.48	11.00	10.51	10.00	0.97	1.00	40 00	7051
7.64	2.15	1.65	11.35	11.60	10.62	10.00	0.73	1.00	45 00	6722
5.37	1.63	1.65	10.84	11.00	10.39	10.00	0.45	1.00	39 00	5939
8.01	3.15	3.29	11.30	11.00	10.62	10.00	0.68	1.00	-----	6760
5.51	1.18	0.82	9.83	9.00	9.24	8.00	0.59	1.00	29 00	6262
5.37	0.94	0.82	8.58	9.00	7.99	8.00	0.59	1.00	-----	6536
4.61	1.04	0.82	9.08	9.00	*7.31	8.00	1.77	1.00	33 00	5774
6.22	1.03	0.82	11.34	11.00	10.15	10.00	1.19	1.00	33 75	5880
4.00	1.07	0.82	12.49	11.00	10.67	10.00	1.82	1.00	36 00	7077
8.33	1.08	0.82	11.54	11.00	10.74	10.00	0.80	1.00	27 00	6107
10.88	1.85	1.65	11.42	11.00	10.56	10.00	1.06	1.00	42 00	5723
7.38	1.97	1.65	11.48	11.00	10.38	10.00	1.10	1.00	40 00	6994
6.68	2.16	1.65	11.39	11.00	10.19	10.00	1.20	1.00	35 00	6109
7.60	3.28	3.29	10.91	11.00	9.85	10.00	1.06	1.00	60 00	6725
3.65	3.65	3.29	11.47	11.00	10.37	10.00	1.10	1.00	55 00	5724
4.43	1.36	0.82	11.61	11.00	10.31	10.00	1.30	1.00	-----	6378
10.61	0.98	0.82	11.54	11.00	10.61	10.00	0.93	1.00	-----	5696
11.95	0.96	0.82	11.31	11.00	10.60	10.00	0.71	1.00	-----	5671
10.35	1.53	1.65	13.92	11.00	13.29	10.00	0.63	1.00	-----	5695
10.31	1.76	1.65	9.57	9.00	8.40	8.00	1.17	1.00	39 00	5799
6.21	0.79	0.41	9.24	9.00	8.47	8.00	0.77	1.00	-----	5537
5.13	1.00	0.82	11.80	11.00	*9.76	10.00	2.04	1.00	37 00	6445
5.30	1.17	0.82	11.71	11.00	9.98	10.00	1.73	1.00	35 00	6734
4.31	1.06	0.82	11.98	11.00	*9.65	10.00	2.33	1.00	37 50	6584
9.87	1.50	1.65	12.82	13.00	12.42	12.00	0.40	1.00	45 00	6851
3.76	1.44	1.23	11.21	11.00	9.87	10.00	1.34	1.00	38 00	6349
7.16	1.88	1.23	11.35	11.00	10.60	10.00	0.75	1.00	37 00	6312
9.42	1.00	0.82	11.37	11.00	10.48	10.00	0.89	1.00	35 00	6428
6.41	1.99	1.65	11.86	11.00	10.89	10.00	0.97	1.00	37 50	6156
4.38	1.09	0.82	9.24	9.00	8.26	8.00	0.98	1.00	-----	6181
8.43	1.05	0.82	9.13	9.00	8.53	8.00	0.60	1.00	31 00	7055
4.34	1.09	0.82	11.72	11.00	10.57	10.00	1.15	1.00	34 00	6365
9.62	1.04	0.82	11.15	11.00	10.27	10.00	0.88	1.00	31 93	5703
10.50	1.90	1.65	11.25	11.00	10.20	10.00	1.05	1.00	39 00	5898
1.80	2.06	1.65	14.26	11.00	11.16	10.00	3.10	1.00	40 00	7103
7.47	3.45	3.29	11.17	11.00	9.96	10.00	1.21	1.00	-----	6502
7.15	1.25	0.82	11.67	11.00	9.82	10.00	1.85	1.00	37 00	6919

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
7100	Milsom's Special Phosphate, -----	E. E. Hunter & Lewis, Hartstown, -----
6898	Milsom's Special Phosphate, -----	Keystone Mills, Emporium, -----
6961	Nassau Common Sense Fertilizer, 1916, -----	W. S. Stuart, Carlisle, -----
6360	Nassau Old Hickory, 1916, -----	W. S. Stuart, Carlisle, -----
5981	Perkin's Globe Phosphate, -----	Jerome Tingley, Coatesville, -----
6857	Soluble Grain Mixture, -----	Franklin S. Lewis, Quakertown, -----
6350	Soluble Grain Mixture, -----	Simpson Brothers, Norristown, -----
5923	Standard Grain & Grass Grower, -----	Lehigh Portland Cement Co., Allentown, -----
6761	Standard Grain & Grass Grower, -----	Jacob Schock, New Ringgold, -----
5773	Wizard Phosphate, -----	Thompson & Glenn, Butler, -----
6216	Wizard Phosphate, -----	E. E. Trilby, West Middlesex, -----
5832	Wizard Phosphate, -----	W. A. Winey, Mexico, -----
6356	XXX Ammoniated Fertilizer, -----	John McCandless, Norristown, -----
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
6061	American Dissolved Bone, -----	Jones Evanson, Christiana, -----
	ARMOUR FERTILIZER WORKS, BAL- TIMORE, MD.	
6889	Armour's 1-8-0 Fertilizer, -----	R. G. Hendryx, Coudersport, -----
5802	Armour's 1-8-0 Fertilizer, -----	Oxford Grain & Hay Co., Oxford, -----
6310	Armour's 1-8-0 Fertilizer, -----	W. H. Seigfried, Kempton, -----
6484	Armour's 1-10-0 Fertilizer, -----	Nazareth Coal & Lumber Co., Nazareth, -----
	ATLANTIC FERTILIZER WORKS (SWIFT & COMPANY, OWNERS), BALTIMORE, MD.	
5963	Atlantic Ammoniated Phosphate, -----	M. Getty, Orangeville, -----
5964	Atlantic Two Ten Naught Brand, -----	M. Getty, Orangeville, -----
	BAUGH & SONS COMPANY, PHILADEL- PHIA, PA.	
7073	Baugh's Corn and Oats Fertilizer, -----	N. H. Blough, Davidsville, -----
6670	Baugh's Corn and Oats Fertilizer, -----	Umble Brothers, Bird-in-Hand, -----
6137	Baugh's Corn and Oats Fertilizer, -----	R. K. Yoder, Belleville, -----
6972	Baugh's High Grade Ammoniated Animal Base, -----	Umble Brothers, Bird-in-Hand, -----
6200	Baugh's Peninsular Grain Producer, -----	Hoon Brothers, Mercer, -----
6497	Baugh's Peninsular Grain Producer, -----	S. K. Mohr, Coopersburg, -----
5767	Baugh's Peninsular Grain Producer, -----	P. J. Oesterling & Son, Butler, -----
6363	Baugh's The Old Standby: Dissolved Animal Base, -----	L. B. Beer, Bedminster, -----
5934	Baugh's The Old Standby: Dissolved Animal Base, -----	Aaron J. Harter, Germansville, -----
6983	Baugh's Trucker's Favorite, -----	B. F. & J. F. Cokely, Scranton, -----
5813	Baugh's Trucker's Favorite, -----	W. E. Ervin, Somerton, -----
6758	Baugh's Trucker's Favorite, -----	Hernan Keebler, Montoursville, -----
	THE BERG COMPANY, PHILADELPHIA, PA.	
6871	Berg's 1½ and 10 Guano, -----	F. D. Hartzel's Sons, Chalfont, -----
5991	Berg's 1½ and 10 Guano, -----	Wm. H. Walker & Co., Kennett Square, -----
5997	Berg's Special Bone Manure without Potash, -----	Edward F. Bracken, Paoli, -----
6872	Berg's Special Bone Manure without Potash, -----	F. D. Hartzel, Chalfont, -----
5860	Berg's Special Wheat Grower, -----	Preston & Jacquish, Troy, -----
	BOWKER FERTILIZER COMPANY, SUB- SIDIARY OF THE AMERICAN AGRI- CULTURAL CHEMICAL CO., NEW YORK, N. Y.	
5751	Bowker's Ammoniated O. I. O. Phosphate, -----	Hartley & Blaine, Turbotville, -----
6826	Bowker's Ammoniated O. I. O. Phosphate, -----	Harvey L. Moses, Chester Springs, -----
5900	Bowker's Ammoniated O. I. O. Phosphate, -----	Sechrist & Ihrlig, York, -----

## PHOSPHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
3.92	1.39	0.82	12.14	11.00	10.28	10.00	1.86	1.00	35 60	7100
6.31	1.20	0.82	11.81	11.00	10.04	10.00	1.77	1.00	37 50	6898
8.88	1.85	1.65	12.09	11.00	11.20	10.00	0.89	1.00	38 50	6961
9.15	1.08	0.82	11.45	11.00	10.52	10.00	0.93	1.00	31 00	6960
8.67	0.90	0.82	9.25	9.00	8.15	8.00	1.10	1.00	-----	5981
4.20	1.15	0.82	9.32	9.00	8.80	8.00	0.52	1.00	33 00	6837
3.62	1.38	0.82	11.63	9.00	10.38	8.00	1.28	1.00	32 00	6350
10.04	1.72	1.65	13.20	13.00	12.60	12.00	0.60	1.00	36 10	5923
7.75	*1.45	1.65	12.76	13.00	12.16	12.00	0.60	1.00	38 00	6761
5.68	0.70	0.41	9.36	9.00	*7.75	8.00	1.61	1.00	31 00	5773
2.08	0.70	0.41	10.13	9.00	8.32	8.00	1.81	1.00	30 00	6216
5.01	0.75	0.41	8.84	9.00	8.00	8.00	0.84	1.00	25 61	5832
7.38	1.70	1.23	11.23	11.00	10.12	10.00	1.11	1.00	40 00	6850
4.36	1.83	1.65	14.96	11.00	10.32	10.00	4.64	1.00	44 00	6061
3.31	1.00	0.82	8.90	8.50	*7.70	8.00	1.20	0.50	32 50	6889
3.56	0.96	0.82	9.03	8.50	7.89	8.00	1.17	0.50	30 00	5802
3.05	0.88	0.82	9.27	8.50	8.10	8.00	1.17	0.50	30 00	6610
8.97	1.23	0.82	11.37	10.50	10.62	10.00	0.75	0.50	33 00	6484
6.75	0.88	0.82	10.97	10.00	10.01	10.00	0.96	-----	31 00	5966
8.18	1.54	1.65	11.39	10.00	9.92	10.00	1.47	-----	38 50	5964
4.94	1.75	1.65	11.25	10.00	10.14	10.00	1.11	-----	45 00	7673
5.66	2.68	1.65	11.34	10.00	10.68	10.00	0.63	-----	39 50	6670
7.62	1.82	1.65	11.26	10.00	10.85	10.00	0.41	-----	41 00	6137
5.09	3.36	3.30	10.73	10.00	10.28	10.00	0.45	-----	54 00	6672
6.26	0.93	0.82	9.13	9.00	*8.68	9.00	0.45	-----	37 00	6200
8.71	0.90	0.82	10.01	9.00	9.12	9.00	0.89	-----	33 00	6197
8.10	1.28	0.82	10.92	9.00	10.00	9.00	0.92	-----	34 00	5767
11.12	1.84	1.65	12.95	12.00	12.27	12.00	0.68	-----	40.00	6863
9.13	1.78	1.65	12.32	12.00	*11.57	12.00	0.75	-----	39 50	5934
2.97	3.05	2.47	11.77	10.00	11.11	10.00	0.66	-----	65 00	6083
5.25	2.73	2.47	10.89	10.00	10.63	10.00	0.26	-----	51 00	5813
4.44	2.60	2.47	11.25	10.00	10.55	10.00	0.70	-----	42.00	6758
3.70	1.68	1.02	13.71	13.50	10.69	10.00	3.02	3.50	37 00	6871
6.03	1.30	1.02	11.95	13.50	*8.82	10.00	3.13	3.50	36 50	5991
6.61	*1.63	2.00	13.32	11.00	8.60	7.00	4.72	4.00	43 00	5997
6.97	*1.47	2.00	11.67	11.00	8.53	7.00	3.14	4.00	43 00	6872
5.23	2.03	1.65	10.84	11.20	8.28	8.00	2.56	3.20	39 40	5890
10.02	0.76	0.62	11.20	11.00	10.04	10.00	1.16	1.00	30 00	5751
8.41	1.21	0.62	11.07	11.00	10.27	10.00	0.80	1.00	34 00	6826
10.62	1.03	0.62	11.11	11.00	10.05	10.00	1.03	1.00	-----	5900

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.		Sample Taken From—	
6265	Bowker's Buckwheat Special, 1919, -----		Wm. Kunkle, Bath, -----	
5857	Bowker's Buckwheat Special, 1919, -----		Isaac Snyder, Bangor, -----	
6716	Bowker's Superphosphate with Ammonia 1%, -----		E. Cobley & Son, Moscow, -----	
7075	Bowker's Superphosphate with Ammonia 1%, -----		C. Greg, Ridgway, -----	
6338	Bowker's Superphosphate with Ammonia 1%, -----		Mars Mfg. & Feed Co., Mars, -----	
6862	Bowker's Superphosphate with Ammonia 2%, -----		L. B. Beer, Bedminster, -----	
6717	Bowker's Superphosphate with Ammonia 2%, -----		E. Cobley & Son, Moscow, -----	
6765	Bowker's Superphosphate with Ammonia 2%, -----		Alvin Futz, Mahanoy City, -----	
<b>THE CENTRAL CHEMICAL COMPANY</b> (THOMAS FERTILIZER WORKS), HAGERSTOWN, MD.				
6247	C. C. C. Acme Brand, -----		Biglerville Warehouse Co., Biglerville, -----	
6903	C. C. C. Acme Brand, -----		Ditz & Mooney, Clarion, -----	
6699	C. C. C. Acme Brand, -----		Adam Krug, Allenwood, -----	
6472	C. C. C. Ammoniated Phosphate, -----		N. G. Adams, Paxinos, -----	
6383	C. C. C. Ammoniated Phosphate, -----		M. F. Bailey, Wellsboro, -----	
6245	C. C. C. Ammoniated Phosphate, -----		Biglerville Warehouse Co., Biglerville, -----	
6426	C. C. C. Bone Compound, -----		Lloyd Hay, Meyersdale, -----	
6175	C. C. C. Dissolved Bone Compound, -----		H. E. Mason, Osterburg, -----	
6425	C. C. C. Fish Bone Compound, -----		Lloyd Hay, Meyersdale, -----	
6471	C. C. C. Pride of the Valley, -----		N. G. Adams, Paxinos, -----	
6445	C. C. C. Pride of the Valley, -----		M. R. Brumbaugh, Martinsburg, -----	
7045	C. C. C. Pride of the Valley, -----		N. J. Miller Co., Elk Lick, -----	
7667	C. C. C. Superior, -----		E. S. Thomas, Hollsopple, -----	
<b>THE CHESAPEAKE CHEMICAL COMPANY, BALTIMORE, MD.</b>				
6951	Chesapeake Buyer's Favorite, -----		C. M. Dietz & Son, Mechanicsburg, -----	
6953	Chesapeake Gem Phosphate, -----		C. M. Dietz & Son, Mechanicsburg, -----	
6952	Chesapeake Grangers Phosphate, -----		C. M. Dietz & Son, Mechanicsburg, -----	
7017	Chesapeake Grangers Phosphate, -----		P. H. Quinn, Dushore, -----	
6944	Chesapeake $\frac{1}{2}$ -7-0 Fertilizer, -----		M. R. Brumbaugh, Martinsburg, -----	
7016	Chesapeake $\frac{3}{4}$ -7-0 Fertilizer, -----		P. H. Quinn, Dushore, -----	
<b>THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.</b>				
5943	E. Frank Coe's Famous Prize Brand Grain & Grass Fertilizer, 1916, -----		H. C. Hartman, Lynnport, -----	
6890	E. Frank Coe's Grain Grower, 1916, -----		B. R. Summer & Co., Waynesboro, -----	
6104	E. Frank Coe's High Grade Ammoniated Superphosphate, 1916, -----		Abington Lumber Co., Dalton, -----	
6346	E. Frank Coe's High Grade Ammoniated Superphosphate, 1916, -----		J. I. Dick Hardware Co., Scottdale, -----	
6288	E. Frank Coe's High Grade Ammoniated Superphosphate, 1916, -----		J. K. Mast, Elverson, -----	
6102	E. Frank Coe's Original Ammoniated Dissolved Phosphate, 1916, -----		Abington Lumber Co., Dalton, -----	
7001	E. Frank Coe's Original Ammoniated Dissolved Phosphate, 1916, -----		C. B. Eastabrook & Son, Rummerfield, -----	
5945	E. Frank Coe's Original Ammoniated Dissolved Phosphate, 1916, -----		H. C. Hartman, Lynnport, -----	
6639	E. Frank Coe's Prolific Crop Producer, 1916, -----		The I. W. Scott Co., Pittsburgh, -----	
6373	E. Frank Coe's Tobacco Special, -----		W. S. Baird, Lock Haven, -----	
6532	E. Frank Coe's Top Dressing Manure, 1916, -----		A. T. Brown, Nescopeck, -----	
6633	E. Frank Coe's XXV Ammoniated Phosphate, 1916, -----		Coburn Grain & Creamery Co., Coburn, -----	
6640	E. Frank Coe's XXV Ammoniated Phosphate, 1916, -----		The I. W. Scott Co., Pittsburgh, -----	
6791	E. Frank Coe's XXV Ammoniated Phosphate, 1916, -----		Lawrence Uban, Ariel, -----	

## PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
5.44	1.05	0.82	9.32	9.00	8.66	8.00	0.66	1.00	32 00	6263
7.51	1.25	0.82	11.10	9.00	10.33	8.00	0.77	1.00	32.00	5857
5.72	1.11	0.82	11.35	11.00	10.30	10.00	1.05	1.00	36 75	6716
3.71	0.97	0.82	11.82	11.00	10.15	10.00	1.67	1.00	38 00	7075
4.09	1.11	0.82	11.93	11.00	16.22	16.00	1.71	1.00	35 00	6388
7.72	2.04	1.65	11.19	11.00	10.26	10.00	0.93	1.00	38 00	6862
4.30	2.25	1.65	11.53	11.00	10.65	10.00	0.88	1.00	44 75	6717
5.36	2.63	1.65	11.07	11.00	10.14	10.00	0.93	1.00	-----	6765
4.11	0.88	0.82	10.00	-----	8.48	8.00	1.52	-----	28 00	6247
7.11	*0.58	0.82	8.58	-----	*7.74	8.00	0.84	-----	28 60	6903
5.48	1.03	0.82	9.36	-----	8.29	8.00	1.07	-----	32 00	6399
6.30	0.58	0.41	10.97	-----	9.07	8.00	1.90	-----	28 00	6472
5.08	0.80	0.41	10.26	-----	8.73	8.00	1.53	-----	35 00	6283
4.30	0.48	0.41	9.03	-----	8.20	8.00	0.83	-----	25 60	6245
6.09	1.07	1.25	12.46	-----	*11.38	14.00	1.08	-----	39 00	6426
7.38	2.06	1.85	13.41	-----	*11.94	13.00	1.47	-----	43 50	6175
5.00	1.38	1.25	11.63	-----	10.21	10.00	1.42	-----	35 76	6125
7.43	1.08	0.82	11.51	-----	9.84	10.00	1.67	-----	33 00	6471
5.61	1.03	0.82	11.70	-----	10.41	10.00	1.29	-----	33 00	6945
6.48	0.67	0.82	10.19	-----	*9.42	10.00	0.77	-----	33 65	7045
7.98	*0.60	0.82	13.50	-----	12.42	12.00	1.48	-----	34 25	7067
4.15	1.24	0.82	10.94	11.00	*9.04	10.00	1.90	1.00	31 60	6951
4.09	1.25	0.82	10.59	9.00	8.83	8.00	1.26	1.00	29 50	6953
7.23	1.85	1.64	12.32	11.00	10.18	10.00	2.14	1.00	39 25	6952
8.62	1.75	1.64	13.48	11.00	11.21	10.00	2.27	1.00	40 60	7017
2.95	0.90	0.41	9.24	8.00	8.47	7.00	0.77	1.00	26 00	6944
4.62	0.78	0.41	9.90	8.00	8.78	7.00	1.12	1.00	-----	7016
3.62	1.03	0.82	9.36	9.00	8.49	8.00	0.87	1.00	31 00	5943
5.32	1.94	1.65	9.43	9.00	8.13	8.00	1.30	1.00	40 50	6980
6.51	2.63	2.47	11.63	11.00	10.69	10.00	0.94	1.00	52 00	6104
5.00	2.70	2.47	12.19	11.00	11.09	10.00	1.10	1.00	65 00	6646
5.81	2.48	2.47	11.52	11.00	10.41	10.00	1.11	1.00	48 25	6288
7.35	1.83	1.65	11.58	11.00	10.18	10.00	1.40	1.00	46 00	6102
6.52	1.86	1.65	12.69	11.00	11.70	10.00	0.99	1.00	39 75	7001
4.77	2.19	1.65	11.48	11.00	10.63	10.00	0.85	1.00	41 00	5945
3.30	3.41	3.29	11.20	11.00	10.36	10.00	0.84	1.00	65 00	6739
8.18	4.15	4.11	5.87	5.00	5.10	4.00	0.77	1.00	64 12	6373
9.90	*6.13	6.58	9.59	9.00	9.27	8.00	0.32	1.00	80 00	6532
5.59	1.28	0.82	11.54	11.00	10.60	10.00	0.94	1.00	-----	6683
10.00	0.83	0.82	12.08	11.00	11.19	10.00	0.89	1.00	39 00	6340
6.68	1.05	0.82	11.72	11.00	10.04	10.00	1.68	1.00	30.00	6791

\*Deficient

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6361	COLUMBIA GUANO COMPANY, BALTI-MORE, MD. Columbia Duplex Ammoniated Phosphate, ---	John W. Root, Kimberton, -----
6258	THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y. Consumers All Crop Compound (without Potash). ---	W. H. Hoffman, New Tripoli, -----
6397	Consumers All Crop Compound (without Potash). ---	F. L. Thompson, Clark Summit, -----
6864	Consumers Pure Sure Ammoniated Bone Phosphate. ---	H. C. Moyer, Blooming Glen, -----
6398	Consumers Pure Sure Ammoniated Bone Phosphate. ---	F. L. Thompson, Clark Summit, -----
6516	Consumers Pure Sure Corn & Vegetable (without Potash). ---	W. A. Buck, Palmerton, -----
6510	Consumers Pure Sure Potato & Vegetable (without Potash). ---	Victor Solt, Lehighton, -----
6399	Consumers Pure Sure Potato & Vegetable (without Potash). ---	F. L. Thompson, Clark Summit, -----
6876	THE JAS. G. DOWNWARD CO., COATESVILLE, PA. Ammoniated Phosphate, -----	R. R. Peterman, Doylestown, -----
5973	Pioneer Potato Phosphate, -----	Isaac Tomlinson, Huntingdon Valley, -----
6387	DUBOIS FERTILIZER WORKS, INC., DUBOIS, PA. DuBois Superb, 1919, -----	Farmers Cooperative Union, Mansfield, -----
5762	DuBois Superb, 1919, -----	C. R. Michael, Muncy, -----
6603	General Crop Grower, 1919, -----	L. A. Chase & Son, Russell, -----
5948	General Crop Grower, 1919, -----	J. S. Cole, Millville, -----
6224	General Crop Grower, 1919, -----	E. G. Rudolph & Co., Volant, -----
5950	Grain & Corn, 1919, -----	J. S. Cole, Millville, -----
6917	Grain & Corn, 1919, -----	Curwensville Hardware Co., Curwensville, -----
6397	Grain & Corn, 1919, -----	Peter Hause, New Columbia, -----
6377	EASTERN GUANO COMPANY, NEW YORK, N. Y. Eastern Fish Bone Mixture, -----	Diehl, Omwake & Diehl, Greencastle, -----
6053	AMOS EBY & CO., LEAMAN PLACE, PA. Pequea Economy, -----	Clayton Rouck, Leaman Place, -----
7106	THE ERIE REDUCTION COMPANY, ERIE, PA. Acidulated Fish Special, -----	Simon Eiseman, Meadville, -----
7117	Acidulated Fish Special, -----	W. D. Ripley, Wesleyville, -----
5911	EUREKA CHEMICAL COMPANY, BALTI-MORE, MD. Eureka C. J. S. Special, -----	E. L. Paules, York, -----
6103	Eureka Crop Grower, -----	W. H. Nesbit, McConnellsburg, -----
6531	THE EUREKA FERTILIZER COMPANY, LANCASTER, PA. No. 7 Grain and Grass, -----	S. N. Moore, Echo, -----
5719	No. 8 Fish & Bone Mixture, -----	P. C. Kline, Brunnersville, -----
6330	No. 8 Fish & Bone Mixture, -----	S. N. Moore, Echo, -----
5977	No. 9 Corn and Potato, -----	Willis Gill, Cochranville, -----
5721	No. 9 Corn and Potato, -----	S. E. Miller, Lititz, -----
5720	No. 10 Corn & Oats, -----	S. E. Miller, Lititz, -----
6329	No. 10 Corn & Oats, -----	S. N. Moore, Echo, -----

## PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
2.71	2.00	1.65	10.60	10.50	*9.67	10.00	6.93	0.50	43 00	6561
5.32	1.07	0.82	10.35	10.00	8.84	9.00	1.51	1.00	31 00	6258
6.61	1.28	0.82	10.29	10.00	10.09	9.00	0.20	1.00	56.00	6297
5.74	1.88	1.65	11.48	11.00	11.21	10.00	0.27	1.00	40 00	6864
7.34	2.05	1.65	9.99	11.00	9.84	10.00	0.15	1.00	40 00	6093
5.16	2.53	2.47	10.49	11.00	10.22	10.00	0.27	1.00	50 00	6513
5.17	3.48	3.29	10.08	11.00	9.91	10.00	0.17	1.00	-----	6510
4.60	3.97	3.29	9.94	11.00	*9.75	10.00	0.19	1.00	56 00	6099
10.15	1.00	0.82	10.63	11.00	*9.16	10.00	1.47	1.00	36 60	6876
12.09	*1.14	2.46	9.67	11.00	*7.50	10.00	2.17	1.00	52 00	5973
5.89	0.94	0.82	9.76	10.50	*8.79	10.00	0.97	0.50	-----	6387
11.05	0.82	0.82	10.60	10.50	*9.58	10.00	1.02	0.50	28 25	5762
6.96	1.53	1.64	10.37	-----	*9.20	10.00	1.17	-----	45 00	6603
12.70	*1.17	1.64	11.65	10.50	10.57	10.00	1.08	0.50	40 00	5948
7.54	*1.44	1.64	10.64	10.50	*9.63	10.00	0.96	0.50	42 00	6224
13.92	0.93	0.82	8.87	9.00	8.09	8.00	0.78	1.00	30 19	5956
5.84	1.12	0.82	10.82	9.00	*6.94	8.00	3.88	1.00	33 50	6917
4.12	1.05	0.82	10.27	9.00	9.30	8.00	0.97	1.00	33 00	6697
5.03	*0.95	1.25	11.56	-----	10.23	10.00	1.33	-----	38 00	6977
7.10	2.24	1.85	12.45	12.00	10.10	10.00	2.35	2.00	40 00	6053
3.60	1.55	1.03	11.95	11.50	9.45	9.50	2.50	2.00	35 00	7106
3.50	1.25	1.03	10.77	11.50	*8.45	9.50	2.32	2.00	35 00	7117
4.73	2.44	2.47	9.54	8.50	8.53	8.00	1.01	0.50	45 00	5911
4.21	6.75	0.41	7.31	7.50	*6.57	7.00	0.64	0.50	25 50	6403
7.86	0.76	0.82	11.06	-----	*9.02	10.00	2.04	1.00	33 50	6331
4.78	0.42	0.41	10.10	-----	*7.75	10.00	2.35	1.00	29 25	5719
8.00	*0.31	0.41	10.89	-----	*9.61	10.00	1.28	1.00	30 00	6330
8.18	0.98	0.82	11.19	-----	*9.28	12.00	1.91	1.00	30 00	5977
8.87	0.75	0.82	14.73	-----	*11.36	12.00	3.37	1.00	35 00	5721
2.53	0.26	Trace	8.75	-----	*6.28	10.00	2.47	1.00	24 00	5720
4.76	0.36	Trace	11.08	-----	*9.96	10.00	1.12	1.00	29 50	6329

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
<b>FARMERS FERTILIZER WORKS, ELIZABETHTOWN, PA.</b>		
5722	Farmers Club Brand, -----	W. B. Gouchnaur, Lititz, -----
5740	Farmers Club Brand, -----	H. H. Martin, Manheim, -----
5840	Farmers Club Brand, -----	Mifflin County Hardware Co., Lewistown, ---
6299	Farmers Golden Sheaf, -----	Simon Graver, Hummelstown, -----
5690	Farmers Golden Sheaf, -----	Lebanon Hardware Co., Lebanon, -----
6349	Grain & Grass Special, -----	B. F. Horting, Newport, -----
6706	Grain & Grass Special, -----	Steininger Brothers, Middleburg, -----
<b>JOSEPH R. GAWTHROP, KENNETT SQUARE, PA.</b>		
5794	Ammoniated Special Phosphate for Corn, Oats and Wheat, -----	Joseph R. Cawthrop, Kennett Square, -----
5793	Special Potato Phosphate, -----	Joseph R. Cawthrop, Kennett Square, -----
<b>GREENCASTLE FERTILIZER HIDE &amp; RENDERING CO., GREENCASTLE, PA.</b>		
6680	Cumberland Valley Special, -----	Greencastle Fertilizer Hide & Rendering Co., Greencastle. -----
6970	Cumberland Valley Special, -----	J. M. Moser, Chambersburg, -----
<b>GRIFFITH &amp; BOYD COMPANY, BALTIMORE, MD.</b>		
5903	Farmer's Mixture, -----	W. L. Mitzel, Red Lion, -----
5984	Farmer's Mixture, -----	E. A. & James L. Pennock, Chatham, -----
6926	Fish and Bone Mixture, -----	Farmers Supply House, Punxsutawney, -----
5980	Peerless Mixture, -----	Richard Scully, Pomeroy, -----
6474	Pure Dissolved Animal Bone, -----	E. L. White, Danville, -----
6703	Spring Crop Substitute, -----	Frank Mayes, Winfield, -----
<b>S. M. HESS &amp; BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.</b>		
6335	Ammoniated Grain Grower, -----	George H. Baker, Valencia, -----
6321	Ammoniated Grain Grower, -----	John Chischm, Mercer, -----
6354	Ammoniated Grain Grower, -----	J. M. Hiltbeitel, Green Lane, -----
5862	Ammoniated Special Fertilizer, -----	Harvey Werner, Wind Gap, -----
6452	Potato Crop Grower, -----	Thomas G. Hager, Farmington, -----
6131	Potato Crop Grower, -----	R. A. Nagney, Milroy, -----
6891	Potato Crop Grower, -----	A. W. Snyder, Coudersport, -----
6887	Reliable Super Phosphate, -----	R. G. Hendryx, Coudersport, -----
6337	Standard Super Phosphate, -----	George H. Baker, Valencia, -----
6602	Standard Super Phosphate, -----	Samuel Buffington, Sacramento, -----
5826	Standard Super Phosphate, -----	Chas. Corl, Boalsburg, -----
5679	Superior Super Phosphate, -----	H. M. Hostetter, Campbelltown, -----
5827	Superior Super Phosphate, -----	John M. Musser, Mifflintown, -----
6254	Superior Super Phosphate, -----	Henry Zader, Northampton, -----
<b>P. HOFFMAN &amp; BROTHER, RAUBSVILLE, PA.</b>		
6577	All Crop, -----	Thomas Sassaman, Ottsville, -----
<b>M. P. HUBBARD CO., INC., BALTIMORE, MD.</b>		
6399	Hubbard's Ever Ready Compound, -----	C. S. Chamberlain, Sabinsville, -----
6374	Hubbard's Ever Ready Compound, -----	J. P. Suchart, New Freedom, -----
6400	Hubbard's Great Harvest, -----	C. S. Chamberlain, Sabinsville, -----
6154	Hubbard's Great Harvest, -----	C. B. Murphey, Red Lion, -----
6375	Hubbard's Great Harvest, -----	J. P. Suchart, New Freedom, -----
<b>THE HUBBARD FERTILIZER CO., BALTIMORE, MD.</b>		
6525	Hubbard's Ammoniated Fertilizer, -----	J. M. Reese, Dallas, -----
6772	Hubbard's Ammoniated Fertilizer, -----	Wesley Seltzer, Orwigsburg, -----

## PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
10.21	2.55	2.47	9.64	9.00	8.08	8.00	1.56	1.00	46 00	5722
11.45	2.30	2.47	10.09	9.00	8.47	8.00	1.62	1.00	47 00	5740
11.52	*2.20	2.47	9.64	9.00	8.16	8.00	1.45	1.00	52 25	5840
11.37	1.52	1.65	12.26	11.00	11.33	10.00	0.93	1.00	39 00	6299
12.00	1.47	1.65	12.12	11.00	10.96	10.00	1.16	1.00	38 50	5630
9.60	1.04	0.82	11.26	11.00	10.37	10.00	0.89	1.00	30 25	6949
9.88	1.20	0.82	12.42	11.00	16.93	16.00	1.49	1.00	33 00	6766
7.01	1.25	1.00	6.74	6.00	5.90	5.00	0.84	1.00	33 00	5794
7.08	1.05	0.80	8.43	6.00	7.92	5.50	0.51	6.50	33 00	5793
8.16	*0.88	1.65	16.77	15.00	16.21	10.00	0.56	5.00	35 00	6380
6.34	*1.13	1.65	16.97	15.00	15.32	10.00	1.65	5.00	35 00	6970
9.44	1.75	1.65	9.34	10.00	9.15	9.00	0.19	1.00	39 00	5903
7.98	1.61	1.65	9.17	10.00	9.02	9.00	0.15	1.00	40 50	5984
9.80	*1.33	1.50	8.18	8.00	7.63	7.00	0.55	1.00	38 00	6326
7.76	0.63	0.41	9.38	9.00	8.32	8.00	1.06	1.00	29 60	5980
4.59	2.28	2.00	12.09	11.00	10.74	10.00	1.35	1.00	44 00	6474
4.77	*1.56	1.65	7.22	7.50	6.74	6.50	6.48	1.00	39 00	6703
1.68	0.98	0.82	9.67	9.00	8.05	8.00	1.62	1.00	34 00	6335
4.13	0.84	0.82	9.80	9.00	8.19	8.00	1.61	1.00	32 00	6221
3.96	0.96	0.82	9.62	9.00	8.03	8.00	0.99	1.00	32 00	6354
5.68	0.65	0.41	9.32	9.00	8.49	8.00	0.83	1.00	29 00	5862
6.70	1.88	1.65	9.53	9.00	8.03	8.00	1.47	1.00	-----	6452
7.16	2.05	1.65	9.57	9.00	8.21	8.00	1.56	1.00	37 25	6131
2.98	1.62	1.65	10.51	9.00	*7.60	8.00	2.91	1.00	39 00	6891
3.51	2.52	2.47	11.29	11.00	*9.39	10.00	1.90	1.00	50 00	6887
6.72	1.21	0.82	11.80	11.00	10.09	10.00	1.71	1.00	36 00	6337
7.85	1.15	0.82	10.36	11.00	*9.62	10.00	0.74	1.00	32 00	6692
8.69	0.93	0.82	11.67	11.00	10.70	10.00	0.97	1.00	32 25	5820
8.21	1.93	1.65	10.18	11.00	*9.12	10.00	1.06	1.00	-----	5679
5.85	1.93	1.65	12.21	11.00	11.19	10.00	1.02	1.00	36 75	5827
6.62	1.50	1.65	11.48	11.00	10.64	10.00	0.84	1.00	42 75	6254
2.13	1.00	0.82	12.31	10.00	8.52	7.00	3.79	3.00	30 00	6877
6.65	1.13	0.83	11.23	11.00	10.09	10.00	1.14	1.00	33 00	6399
7.35	1.23	0.83	11.23	11.00	9.90	10.00	1.33	1.00	31 00	6574
7.00	*1.36	1.65	11.53	11.00	10.14	10.00	1.39	1.00	41 00	6100
6.82	1.78	1.65	12.21	11.00	10.81	10.00	1.40	1.00	38 00	6154
6.75	1.83	1.65	11.99	11.00	10.37	10.00	1.62	1.00	38 00	6575
9.35	2.80	2.46	12.22	11.00	10.68	10.00	2.14	1.00	47 00	6525
7.55	2.77	2.46	11.53	11.00	11.07	10.00	0.46	1.00	47 00	6772

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6227	Hubbard's Columbia Phosphate, -----	Brodbeck & Rohrbaugh, Brodbecks, -----
6539	Hubbard's Columbia Phosphate, -----	F. H. Houseknecht, Seybertsville, -----
6194	Hubbard's Columbia Phosphate, -----	G. R. Lutz, Lutzville, -----
6524	Hubbard's Excelsior Mixture, -----	J. M. Reese, Dallas, -----
6147	Hubbard's Excelsior Mixture, -----	H. D. Rossman, Spring Mills, -----
6556	Hubbard's Oriental Guano, -----	D. E. Brant, East Berlin, -----
5954	Hubbard's Oriental Guano, -----	S. R. Kline, Benton, -----
6939	Hubbard's Oriental Guano, -----	K. L. McClain & Co., Tyrone, -----
INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.		
7087	Buffalo Ammoniated Phosphate, -----	F. W. Engle, Tidioute, -----
6589	Buffalo Crop Grower, -----	Geo. Burnham, Eldred, -----
5788	Buffalo Crop Grower, -----	Harmony Cereal Mills, Harmony, -----
6144	Buffalo Crop Grower, -----	H. E. Lutz, Newton Hamilton, -----
6583	Buffalo Farmer's Choice, -----	Geo. Burnham, Eldred, -----
6205	Buffalo Farmer's Choice, -----	A. C. Daugherty, Grove City, -----
7088	Buffalo Farmer's Choice, -----	G. L. King, West Hickory, -----
6209	Buffalo Ideal Wheat & Corn, -----	A. C. Daugherty, Grove City, -----
6418	Buffalo Ideal Wheat & Corn, -----	W. S. Henderson, Alexandria, -----
6893	Buffalo Ideal Wheat & Corn, -----	E. H. Tucker, Coalsburgh, -----
7091	I. A. C. Early Harvest, -----	Clyde D. Duffee, Oil City, -----
7036	I. A. C. General Crop, -----	Clyde D. Duffee, Oil City, -----
5777	I. A. C. Grain Grower, -----	H. F. Gelbach, Evans City, -----
6328	I. A. C. Grain Grower, -----	R. C. Wilson, Dayton, -----
THE JARECKI CHEMICAL CO., SANDUSKY, OHIO.		
7630	Ammoniated Phosphate, -----	Eugene Burnett, Utica, -----
7019	Ammoniated Phosphate, -----	Wm. H. Stevenson, Volant, -----
KEYSTONE BONE FERTILIZER COMPANY, PHILADELPHIA, PA.		
6501	Keystone Ammoniated Superphosphate, -----	George B. Cunfer, Lehighton, -----
6787	Keystone Economy Grain Compound, -----	I. C. Williams, Ariel, -----
6031	Keystone Standard Potato Manure Revised, -----	Charles Schofstahl, Valley View, -----
6531	Keystone Standard Potato Manure Revised, -----	P. K. Smith, Nescopeck, -----
KOLLER FERTILIZER CO., SEITZLAND, Pa.		
5013	Koller's One & Ten Phosphate, -----	Asa P. Gable, York, -----
THE LANCASTER BONE FERTILIZER COMPANY, LANCASTER, PA.		
5983	Ammoniated Bone Manure, -----	Wm. T. Albright, Cochranville, -----
5926	Corn, Grass & Wheat Special, -----	John Peters, Cloudsville, -----
6780	National Crop Grower, -----	A. L. Balsgrove, Frelensburg, -----
THE LANCASTER CHEMICAL COMPANY, LANCASTER, PA.		
6995	No. 6 Grain Special, -----	Francis T. Baker, Lewisburg, -----
5935	No. 15 General Crop Special, -----	Lehigh Exchange, Germansville, -----
6782	No. 15 General Crop Special, -----	E. A. Morgan, Pine Grove, -----
6783	No. 18 Success Brand, -----	E. A. Morgan, Pine Grove, -----
6075	No. 18 Success Brand, -----	H. B. Stauffer, Leola, -----
5687	No. 18 Success Brand, -----	C. S. Zimmerman, Quentlin, -----
THE LEBANON FERTILIZER WORKS, LEBANON, PA.		
5669	Levan's Golden King Fertilizer, -----	A. B. Bomgardner, Palmyra, -----
6928	Levan's Golden King Fertilizer, -----	David Houser, Palmyra, -----
6655	Levan's Golden King Fertilizer, -----	West Willow Farmers Association, West Willow, -----

## PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
5.27	1.06	0.82	11.42	9.00	9.17	8.00	2.25	1.00	28 50	6227
3.12	1.05	0.82	9.55	9.00	8.13	8.00	1.42	1.00	38 00	6539
4.03	1.25	0.82	8.62	9.00	*7.47	8.00	1.15	1.00	30 00	6194
9.52	1.78	1.64	11.77	11.00	10.33	10.00	1.44	1.00	40 00	6521
9.59	2.40	1.64	12.49	11.00	11.50	10.00	0.99	1.00	32 50	6147
4.48	1.00	0.82	11.19	11.00	10.14	10.00	1.05	1.00	31 00	6556
3.18	0.78	0.82	11.72	11.00	10.47	10.00	1.25	1.00	32 75	5954
3.56	1.30	0.82	11.37	11.00	10.39	10.00	0.98	1.00	29 50	6939
3.83	1.55	1.23	14.44	13.00	11.94	12.00	2.50	1.00	42 60	7087
2.64	0.95	0.80	8.99	9.00	7.88	8.00	1.11	1.00	31.75	6589
3.61	0.95	0.80	8.14	9.00	*7.06	8.00	1.08	1.00	31 60	5788
3.09	1.11	0.80	9.22	9.60	8.11	8.00	1.11	1.00	31.35	6144
4.29	1.65	0.80	11.76	11.00	10.08	10.00	1.63	1.00	33 50	6588
3.94	1.13	0.80	11.06	11.00	9.81	10.60	1.25	1.00	35 50	6205
4.30	0.99	0.82	11.19	11.00	*9.63	10.00	1.51	1.00	35 60	7088
4.12	1.80	1.60	10.17	11.00	*9.65	10.00	1.12	1.00	45 50	6209
4.00	1.72	1.60	10.93	11.00	*9.68	10.00	1.25	1.00	46 50	6118
6.97	1.60	1.60	10.87	11.00	*8.82	10.00	2.05	1.00	46 50	6393
4.29	1.98	1.60	11.89	11.00	9.95	10.00	1.94	1.00	42 50	7091
4.22	0.92	0.80	9.66	11.00	*8.28	16.00	1.38	1.00	34 50	7036
3.75	0.68	0.41	10.74	10.00	9.08	9.00	1.63	1.00	30 60	5777
3.29	0.66	0.40	11.14	10.00	9.35	9.00	1.79	1.00	29 00	6328
6.73	1.08	0.82	11.95	11.00	10.24	10.00	1.71	1.00	34 00	7030
5.50	1.06	0.82	12.78	11.00	10.37	10.60	2.41	1.00	29 50	7019
6.54	2.13	1.65	11.82	11.00	10.34	10.00	1.48	1.00	39 00	6501
3.55	1.40	0.82	10.93	10.00	9.77	9.60	1.16	1.60	36 00	6787
5.56	3.03	2.46	11.72	11.00	10.21	10.00	1.51	1.00	47 50	6931
4.77	2.63	2.46	11.26	11.00	10.02	10.00	1.24	1.60	-----	6531
7.87	1.63	0.82	12.63	10.50	10.10	10.00	3.53	0.50	27 50	5913
6.96	0.95	0.82	16.75	10.00	10.09	9 00	0.66	1.00	31 00	5983
4.62	0.70	0.41	11.14	11.00	10.04	10.00	1.16	1.00	33 00	5926
3.41	0.75	0.40	9.27	9.00	8.50	8.00	0.77	1.00	34 50	6780
3.43	6.60	0.41	12.76	11.00	10.11	10.00	2.65	1.00	30 00	6395
9.24	*0.87	1.65	14.08	-----	*11.11	12.00	2.97	1.00	39 50	5935
8.97	*1.00	1.65	11.61	13.00	*9.90	12.00	1.71	1.00	40 00	6782
2.81	*0.49	0.83	13.11	13.00	*9.61	12.00	3.50	1.00	32 60	6783
5.88	0.93	0.82	11.31	-----	*8.53	12.00	2.78	1.00	34 00	6075
4.46	1.33	0.82	8.81	-----	*6.77	12.00	2.04	1.00	-----	5687
6.68	0.98	0.82	12.62	11.00	*9.28	10.00	2.74	1.00	30 00	5669
5.05	0.83	0.82	12.64	11.00	11.11	10.00	1.53	1.00	30 25	6628
4.53	0.93	0.82	12.28	11.00	9.83	10.00	2.45	1.00	30 25	6655

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6289	Levan's Grain Fertilizer, -----	A. F. Bayer, Hamburg, -----
6034	Levan's Special Tobacco Fertilizer, -----	I. E. Artz, Hegins, -----
6330	Levan's Special Tobacco Fertilizer, -----	David Houser, Palmyra, -----
6038	Levan's Special Tobacco Fertilizer, -----	Harry Keffer, Pine Grove, -----
LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.		
6010	Listers Crescent Ammoniated Superphosphate, 1916. -----	J. C. Boyer, Klingerstown, -----
6056	Listers Crescent Ammoniated Superphosphate, 1916. -----	L. D. Brackbill, Kinser, -----
6491	Listers Crescent Ammoniated Superphosphate, 1916. -----	Robert D. Lames, Coopersburg, -----
5814	Listers Excelsior Guano, 1916, -----	W. E. Ervin, Somerton, -----
6625	Listers Excelsior Guano, 1916, -----	J. M. Groh, Liekdale, -----
6492	Listers Excelsior Guano, 1916. -----	Robert D. Lames, Coopersburg, -----
6493	Listers Plant Food, 1916, -----	Robert D. Lames, Coopersburg, -----
5836	Listers Plant Food, 1916, -----	J. K. McLaughlin, Spruce Hill, -----
5875	Listers Plant Food, 1916, -----	N. J. Norton, New Albany, -----
5972	Listers Superior Ammoniated Superphosphate, 1916. -----	W. E. Ervin, Somerton, -----
THE MAPES FORMULA & PERUVIAN GUANO CO., NEW YORK, N. Y.		
6252	Mapes General Crop (1916 Brand), -----	George Gangaware, Claussville, -----
THE MARTIN FERTILIZER CO., PHILA- DELPHIA, PA.		
6271	Martin's Ammoniated Phosphate 1-8-0, -----	Edwin Houck, Bangor, -----
6567	Martin's Ammoniated Phosphate 1-8-0, -----	J. F. & H. O. Newhouse, Glen Rock, -----
6272	Martin's Ammoniated Phosphate 2-8-0, -----	Edwin Houck, Bangor, -----
6360	Martin's Ammoniated Phosphate 2-8-0, -----	John W. Root, Kimberton, -----
6781	Martin's Ammoniated Phosphate 2-10-0, -----	John Reed, Cressona, -----
6048	Martin's Crop Producer, -----	Clayton Rouck, Leaman Place, -----
6342	Martin's Crop Producer, -----	H. R. Seibert, Gibsonia, -----
6837	Martin's Pure Dissolved Animal Matter, -----	R. E. Mason, Hatboro, -----
5909	Martin's Pure Dissolved Animal Matter, -----	A. L. Miller, York, -----
6049	Martin's Pure Dissolved Animal Matter, -----	Clayton Rouck, Leaman Place, -----
THE MILLER FERTILIZER CO., BAL- TIMORE, MD.		
5805	M. B. S., -----	M. T. Harkins, Hickory Hill, -----
5749	M. B. S., -----	Hartley & Blaine, Turbotville, -----
6572	M. B. S., -----	J. R. Suchart, New Freedom, -----
5804	Miller's No. 2 Special, -----	M. T. Harkins, Hickory Hill, -----
5748	Miller's No. 2 Special, -----	Hartley & Blaine, Turbotville, -----
5916	Miller's No. 2 Special, -----	F. H. Shenberger, Red Lion, -----
NASSAU FERTILIZER COMPANY, SUB- SIDIARY OF THE AMERICAN AGRI- CULTURAL CHEMICAL CO., NEW YORK, N. Y.		
7006	Ammoniated Potato Compound, -----	E. L. Jones, Fairdale, -----
5851	Common Sense Fertilizer, 1916, -----	Willard Hartzel, Mt. Bethel, -----
7007	Common Sense Fertilizer, 1916, -----	E. L. Jones, Fairdale, -----
6861	Old Hickory, 1916, -----	L. B. Beer, Bedminster, -----
6303	Old Hickory, 1916, -----	S. A. Fishburn, Harrisburg, -----
6281	Old Hickory, 1916, -----	Wm. Olinger, Shoemakersville, -----
NITRATE AGENCIES COMPANY, NEW YORK, N. Y.		
6530	N. A. C. Brand 3-10-0 Mixture, -----	Luzerne Co. Farm Bureau, Willsberrie, -----

## PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
4.68	0.62	0.41	10.06	9.00	8.52	8.00	1.54	1.00	28 00	6289
7.84	2.59	2.47	9.71	9.00	8.91	8.00	0.80	1.00	44 00	6034
7.58	2.42	2.47	9.45	9.00	8.49	8.00	0.96	1.00	45 00	6630
8.40	2.38	2.47	9.61	9.00	8.70	8.60	0.91	1.00		6038
8.18	2.05	1.65	11.71	11.00	10.72	10.00	0.99	1.00		6010
7.20	1.94	1.65	12.45	11.00	11.16	10.00	1.29	1.00	40 00	6056
6.56	2.21	1.65	13.01	11.00	9.95	10.00	3.06	1.00	42 00	6491
12.38	2.90	2.47	11.74	11.00	*9.41	10.00	2.33	1.00	51 00	5814
8.12	2.53	2.47	11.34	11.00	10.49	10.00	0.75	1.00	48 00	6925
13.49	2.85	2.47	11.57	11.00	8.81	10.00	2.76	1.00	50 00	6492
6.64	0.88	0.82	12.02	11.00	10.99	10.00	1.03	1.00	34 00	6493
4.57	1.05	0.82	12.25	11.00	11.22	10.00	1.03	1.00	31 75	5836
7.98	1.13	0.82	11.81	11.00	10.22	10.00	1.59	1.00	37 00	5875
11.57	3.52	3.29	11.61	11.00	10.18	10.00	0.53	1.00	59 60	5972
5.29	1.97	1.65	11.42	10.00	*7.25	8.00	4.17	2.00	35 00	6252
6.68	1.23	0.82	13.99	9.00	10.51	8.00	3.48	1.00	29 75	6271
9.17	1.09	0.82	10.26	9.00	8.27	8.00	1.99	1.00	30 00	6567
4.54	1.95	1.65	11.86	9.00	8.15	8.00	3.71	1.00	38 50	6272
7.56	1.88	1.65	10.20	9.00	*7.71	8.00	2.49	1.00		6360
5.72	1.78	1.65	15.18	11.00	12.95	10.00	2.23	1.00	39 00	6781
7.30	1.24	1.03	13.76	11.00	10.00	10.00	3.76	1.00	34 00	6048
9.51	1.21	1.03	13.05	11.00	11.26	10.00	1.79	1.00	38 00	6342
8.12	1.65	1.65	15.37		12.93	12.00	2.44		45 00	6857
9.89	1.85	1.65	16.31		12.55	12.00	3.76			5909
10.40	*0.82	1.65	17.22		12.42	12.00	4.80		46 00	6049
4.41	0.95	0.62	7.61	7.50	6.88	7.00	0.73	0.50	27 00	5865
4.34	0.84	0.62	8.16	7.50	7.22	7.00	0.94	0.50	28 00	5749
3.75	0.86	0.62	7.45	7.50	6.82	7.00	0.63	0.50	28 00	6572
5.44	1.22	1.03	9.36	8.50	8.49	8.00	0.87	0.50	31 00	5804
3.20	1.35	1.03	9.48	8.50	8.92	8.00	0.56	0.50	32 00	5748
5.32	1.02	1.03	8.29	8.50	*7.52	8.00	0.77	0.50	31 00	5916
2.86	2.92	2.47	11.29	11.00	10.44	10.00	0.85	1.00	48 00	7006
7.17	1.80	1.65	11.67	11.00	10.73	10.00	0.94	1.00	37 25	5851
4.27	2.31	1.65	11.26	11.00	10.26	10.00	0.94	1.00	40 00	7607
7.00	1.13	0.82	10.32	11.00	*9.58	10.00	0.74	1.00		6861
5.42	1.20	0.82	11.97	11.00	10.90	10.00	1.07	1.00	32 25	6303
6.78	1.01	0.82	11.43	11.00	10.28	10.00	1.15	1.00	28.25	6281
11.25	2.46	2.46	10.57	11.00	10.25	10.00	0.32	1.00		6530

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6240	G. OBER & SON CO., BALTIMORE, MD.	J. W. Duttera, New Oxford, -----
6804	Ober's Electro Compound, -----	H. L. Orr, Tyrone, -----
7049	Ober's Electro Compound, -----	N. B. Shober, Garret, -----
6679	Ober's Special Tobacco & Truck Guano, ---	Miller & Bushong, Rohrerstown, -----
	OXFORD PACKING WORKS, OXFORD, PA.	
6361	O. P. W. No. 2, -----	H. H. Miller, Collamer, -----
6363	O. P. W. No. 3, -----	H. H. Miller, Collamer, -----
	OYLER & SPANGLER FERTILIZER WORKS, INC., GETTYSBURG, PA.	
6978	Excelsior, -----	J. W. Hartman, Greencastle, -----
6243	Super Phosphate, -----	G. C. Myers, Gardners, -----
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
6489	Patapsco Ammoniated Compound, -----	Ackermanville Mfg. Co., Ackermanville, ---
5833	Patapsco Ammoniated Compound, -----	J. S. Harley, Thompsonstown, -----
5698	Patapsco Ammoniated Compound, -----	Williams Brothers, Dillsburg, -----
6187	Patapsco Farmers Delight, -----	Ackermanville Milling Co., Ackermanville, --
6319	Patapsco Farmers Delight, -----	Charles S. Brunner, Bloomfield, -----
6090	Patapsco Farmers Delight, -----	Summit Lumber Co., Clark Summit, -----
7043	Patapsco Fish Mixture, -----	D. S. Gnagey, Meyersdale, -----
6114	Patapsco Golden Crop Fertilizer, 1916, -----	M. E. Jones, Moscow, -----
6310	Patapsco Golden Crop Fertilizer, 1916, -----	Mock & Hartman, Harrisburg, -----
6803	Patapsco Golden Crop Fertilizer, 1916, -----	W. H. Osburn, Sterling, -----
6116	Patapsco Truckers Delight, -----	W. E. Jones, Moscow, -----
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
5761	Levering's Standard, -----	McConnell Brothers, Hughesville, -----
5759	Peerless Phosphate, -----	McConnell Brothers, Hughesville, -----
6356	Piedmont Blue Ribbon Fertilizer, -----	Pequa & Millersville Supply Co., Pequa, --
6663	Piedmont Special Crop Grower, -----	John Bucher, Ephrata, -----
7045	Piedmont Utility Fertilizer, -----	James Maust, Elk Lick, -----
5928	Piedmont Utility Fertilizer, -----	Amandus Wotring, Schencksville, -----
	PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA.	
6442	Guano Fertilizer, -----	W. N. Acklin, Beallsville, -----
6634	Guano Fertilizer, -----	F. W. Scott, Hays, -----
	THE POLLOCK FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
6113	Ammoniated Fertilizer A.A., -----	J. H. Scott, Petersburg, -----
7060	Our Brand Guano, -----	Webster J. Barron, Friedens, -----
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
5960	Rasin's Potato and Vegetable Fertilizer, ---	H. B. Low & Son, Orangeville, -----
7079	Rasin's Potato and Vegetable Fertilizer, ---	Leonard Ritter, St. Marys, -----
6232	Rasin's Royal Ammoniated Superphosphate, -----	J. D. Markle, Hanover, -----
6560	Rasin's Royal Ammoniated Superphosphate, -----	Henry K. Mohr, Quakertown, -----
6412	Rasin's Royal Superphosphate, -----	J. L. Baumgardner, Petersburg, -----
6911	Rasin's Royal Superphosphate, -----	Peffer & Son, Punxsutawney, -----
6226	Rasin's Royal Superphosphate, -----	A. G. Taylor, Glenville, -----
5994	Rasin's Royal Superphosphate, -----	Wm. H. Walker & Co., Kennett Square, --
5727	Rasin's Special Fish Mixture, -----	Samuel Book, Quarryville, -----
5993	Rasin's Special Fish Mixture, -----	Wm. H. Walker & Co., Kennett Square, --
6317	Rasin's Special Fish & Bone Guano, -----	F. O. Boyer, Millersburg, -----

## PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
10.31	0.93	0.82	11.67	11.00	10.93	10.00	0.74	1.00	30 00	6240
9.26	1.05	0.82	12.09	11.00	11.29	10.00	0.80	1.00	33 50	6364
6.03	0.89	0.82	12.82	11.00	11.93	10.00	0.89	1.00	33 25	7049
8.35	*2.89	3.28	12.12	9.60	9.61	8.00	2.51	1.00	53 00	6379
10.76	2.65	1.44	10.80	10.00	10.42	9.00	0.88	1.00	38 00	6364
7.12	1.28	0.82	12.72	11.00	11.25	10.60	1.47	1.00	34 00	6363
5.27	0.94	0.82	11.54	-----	10.12	10.00	1.42	-----	32 00	6978
7.15	0.69	0.82	11.03	-----	10.63	9.00	0.97	-----	31 00	6243
3.96	0.97	0.82	12.73	11.00	10.37	10.00	2.36	1.00	34 00	6489
6.69	1.00	0.82	11.75	11.00	10.63	10.00	1.07	1.00	31 00	5833
11.35	1.09	0.82	11.25	11.00	10.48	10.00	0.77	1.00	32 00	5698
4.98	0.96	0.82	9.98	9.00	9.28	8.00	0.70	1.00	32 00	6487
7.54	1.10	0.82	9.39	9.00	8.29	8.00	1.10	1.00	31 50	6319
8.21	1.34	0.82	9.76	9.00	8.83	8.00	0.93	1.00	32 50	6090
6.82	2.02	1.65	8.90	9.00	8.39	8.00	0.51	1.00	38 00	7043
7.05	2.16	1.65	11.45	11.00	10.67	10.00	0.78	1.00	42 50	6114
5.87	1.68	1.65	12.86	11.00	11.79	10.00	1.07	1.00	42 50	6310
7.60	2.09	1.65	11.79	11.00	10.67	10.00	1.12	1.00	42 00	6303
5.53	2.70	2.47	11.61	11.00	10.91	10.00	0.70	1.00	50 00	6116
6.44	1.83	1.65	11.06	9.00	9.77	8.00	1.29	1.00	40 00	5761
4.41	0.91	0.82	9.31	-----	8.34	8.00	0.97	2.00	32 25	5759
4.38	2.48	2.47	10.57	11.00	*9.59	10.00	0.98	1.00	51 00	6656
4.04	0.85	0.82	10.69	11.00	10.15	10.00	0.54	1.00	32 00	6963
6.72	1.83	1.65	10.91	11.00	*9.52	10.00	1.39	1.00	40 50	7046
6.19	1.94	1.65	10.72	11.00	*9.48	10.00	1.24	1.00	39 00	5928
3.80	2.20	1.43	11.35	11.00	*7.59	9.00	3.76	2.00	34 00	6442
3.36	2.00	1.43	11.23	11.00	*8.66	9.00	2.67	2.00	39 00	6334
7.99	2.04	1.65	11.41	11.00	10.52	10.00	0.89	1.00	-----	6413
5.50	1.22	0.82	9.59	9.00	*9.33	8.00	0.66	1.00	36 00	7060
3.04	3.44	3.29	12.72	9.00	*7.11	8.00	5.61	1.00	54 00	5960
3.33	4.03	3.29	9.11	9.00	8.54	8.00	0.57	1.00	57 00	7079
11.79	0.71	0.41	11.11	11.00	10.01	10.00	1.10	1.00	29 50	6232
9.57	0.93	0.41	11.48	11.00	10.91	10.00	0.57	1.00	30 00	6860
7.82	1.00	0.41	9.27	9.00	8.63	8.00	0.64	1.00	27 00	6412
8.15	0.95	0.41	9.48	9.00	8.71	8.00	0.77	1.00	30 00	6911
9.72	0.65	0.41	9.83	9.00	8.99	8.00	0.84	1.00	25 00	6226
9.56	0.55	0.41	9.52	9.00	8.30	8.00	1.22	1.00	28 00	5994
8.45	0.94	0.82	11.42	11.00	10.20	10.00	1.22	1.00	31 00	5727
11.81	1.21	0.82	11.35	11.00	10.19	10.00	1.16	1.00	33 00	5993
2.89	2.48	1.65	14.47	12.00	11.88	11.00	2.59	1.00	43 00	6317

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
<b>READING BONE FERTILIZER CO., READING, PA.</b>		
6126	Animal Tankage Mixture, -----	A. N. Hobbs, LaPlume, -----
6712	Dissolved Animal Matter, -----	L. G. Colvin, Dalton, -----
5889	Dissolved Animal Matter, -----	W. W. Moses, Exton, -----
6394	High Grade Truck Food, -----	C. L. Brown, Shinglehouse, -----
6708	High Grade Truck Food, -----	A. N. Hobbs, LaPlume, -----
6794	Reading All Crop Special, -----	G. B. Correll, Greentown, -----
6273	Reading Prize Winner, -----	C. R. Bucher, Meyerstown, -----
6363	Reading Prize Winner, -----	B. F. Lehman, Mountville, -----
6885	Reading Special Potato and Tobacco Ma- ure, -----	I. H. Dingman, Coudersport, -----
5692	Reading Special Potato and Tobacco Ma- ure, -----	Samuel Kline, Lebanon, -----
5988	Reading Special Potato and Tobacco Ma- ure, -----	W. W. Moses, Exton, -----
<b>READING CHEMICAL COMPANY, READ- ING, PA.</b>		
6526	Early Truck Tobacco & Potato, -----	C. M. Honeywell, Dallas, -----
5877	Farmers Favorite, -----	Ira Hottenstein, Overton, -----
7086	Farmers Favorite, -----	Leonard Ritter, St. Marys, -----
6353	Farmers Meat Mixture, -----	Harvey B. Tyson, Schwenckville, -----
6739	Reading Grain Special, -----	Pierce Eldris, Rehrersburg, -----
5953	Reading Grain Special, -----	W. W. Parker, Rohrsburg, -----
<b>ROBERT A. REICHARD, ALLENTOWN, PA.</b>		
6045	Ideal Truck Phosphate, -----	James B. Adams, Weatherly, -----
5924	Lehigh Special Phosphate, -----	Lehigh Portland Cement Co., Allentown, -----
6479	Lehigh Special Phosphate, -----	Ross A. Reichard, Allentown, -----
5859	Universal Phosphate, -----	Wm. Kostenbader, Nazareth, -----
6322	Universal Phosphate, -----	Schlegel, Adams & Co., Fleetwood, -----
<b>REICHARD HIDE &amp; TALLOW CO., ASH- LAND, PA.</b>		
6461	Farmers Choice, -----	F. E. Houek, Catawissa, -----
6761	Farmers Choice, -----	John Kunkle, Mahanoy City, -----
6163	Hercules (1-10), -----	F. E. Houek, Catawissa, -----
<b>F. S. ROYSTER GUANO COMPANY, BAL- TIMORE, MD.</b>		
6368	Royster's Defender Ammoniated Phosphate, --	Henry S. Zook, Elverson, -----
6702	Royster's Meteor Ammoniated Phosphate, --	John Strickler, Mifflinburg, -----
6313	Royster's Penguin Ammoniated Phosphate, --	Elizabethville Milling Co., Elizabethville, --
5895	Royster's Penguin Ammoniated Phosphate, --	Farmers Supply Co., Milan, -----
6369	Royster's Penguin Ammoniated Phosphate, --	Henry S. Zook, Elverson, -----
5797	Royster's Purity Ammoniated Phosphate, --	S. K. Chambers & Brother, Elkview, -----
6388	Royster's Purity Ammoniated Phosphate, --	Geo. Connelly, Covington, -----
5894	Royster's Purity Ammoniated Phosphate, --	Farmers' Supply Co., Milan, -----
5796	Royster's Royal Blue Ammoniated Phos- phate, -----	S. K. Chambers & Brother, Elkview, -----
6371	Royster's Royal Blue Ammoniated Phos- phate, -----	Albert C. Myers, Lock Haven, -----
6607	Royster's Royal Blue Ammoniated Phos- phate, -----	Putnam & Parker, Columbus, -----
<b>SCHAAL-SHELDON FERTILIZER COM- PANY, SUSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BUF- FALO, N. Y.</b>		
6196	Ammoniated Superphosphate No. 1, -----	J. E. Jackson, Everett, -----
5713	Ammoniated Superphosphate No. 2, -----	Kreitz-Creek Farmers Cooperative Associa- tion, York.

## PHOSPHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
4.67	2.09	1.64	16.29	15.00	14.39	14.00	1.99	1.00	48 00	6126
3.09	0.90	0.82	10.60	11.00	*9.38	10.00	1.22	1.00	34 00	6712
7.90	0.90	0.82	11.44	11.00	9.85	10.00	1.59	1.00	36 00	5989
3.55	3.36	3.29	14.61	13.00	12.90	12.00	1.71	1.00	58 25	6894
5.20	3.60	3.29	14.07	13.00	12.03	12.00	2.04	1.00	63 00	6708
3.72	2.60	1.64	12.51	11.00	9.88	10.00	2.63	1.00	41 75	6194
5.94	2.84	2.46	11.07	10.00	*8.65	9.00	2.42	1.00	-----	6273
4.93	2.98	2.46	11.56	10.00	*8.55	9.00	3.01	1.00	50 60	6633
8.34	1.40	0.82	13.76	13.00	11.89	12.00	1.81	1.00	37 00	6885
8.59	1.18	0.82	14.26	13.00	12.20	12.00	2.04	1.00	35 00	5692
10.88	0.99	0.82	15.77	13.00	13.28	12.00	2.49	1.00	38 00	5988
3.23	3.40	3.29	10.09	11.00	*9.64	10.00	0.45	1.00	54 00	6526
9.03	0.78	0.82	10.45	11.00	*9.71	10.00	0.74	1.00	-----	5877
4.14	0.97	0.82	12.56	11.00	10.51	10.00	2.05	1.00	35 00	7080
2.68	1.23	0.82	9.62	9.00	8.32	8.00	1.30	1.00	34 00	6353
3.90	0.49	0.41	6.83	8.00	*6.40	7.00	0.43	1.00	-----	6739
3.39	0.53	0.41	9.27	8.00	8.58	7.00	0.69	1.00	27 00	5955
9.98	*3.07	3.28	10.94	11.00	*9.75	10.00	1.19	1.00	60 00	6745
9.26	1.69	1.64	13.33	13.00	12.23	12.00	1.10	1.00	37 05	5924
9.82	1.68	1.64	13.33	13.00	12.35	12.00	0.98	1.00	39 00	6179
3.76	1.08	0.82	11.89	11.00	10.55	10.00	1.34	1.00	32 00	5859
3.20	0.95	0.82	11.19	11.00	10.34	10.00	0.85	1.00	31 50	6322
11.94	1.50	1.65	10.29	-----	*8.50	10.00	1.79	-----	41 50	6161
10.66	1.55	1.65	10.50	-----	*8.91	10.00	1.59	-----	40 00	6764
4.25	0.81	0.82	19.36	12.00	*9.61	10.00	9.75	2.00	34 00	6463
5.23	*3.02	3.29	8.38	8.50	*6.91	8.00	1.47	0.50	55 00	6368
5.69	1.49	0.82	12.51	12.50	*10.99	12.00	1.52	0.50	-----	6702
4.66	1.70	1.65	11.60	10.50	10.81	10.00	0.79	0.50	40 82	6313
3.08	1.93	1.65	11.19	10.50	*9.77	10.00	1.42	0.50	40 00	5895
4.28	1.78	1.65	10.74	10.50	*8.90	10.00	1.84	0.50	37 75	6369
4.90	1.63	0.82	9.04	8.50	7.82	8.00	1.22	0.50	35 00	5797
4.55	1.03	0.82	8.90	8.50	*7.75	8.00	1.15	0.50	36 00	6388
5.00	1.00	0.82	8.50	8.50	*7.34	8.00	1.16	0.50	29 50	5894
5.50	1.06	0.82	16.70	10.50	*9.31	10.00	1.39	0.50	37 00	5756
4.02	1.25	0.82	10.63	10.50	*9.71	10.00	0.92	0.50	26 50	6371
4.38	1.04	0.82	10.51	10.50	*9.57	10.00	0.94	0.50	33 00	6607
9.00	0.96	0.82	11.67	11.00	10.75	10.00	0.92	1.00	34 70	6196
10.41	1.88	1.65	11.68	11.00	10.70	10.00	0.98	1.00	37 90	5713

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.		Sample Taken From—	
5712	Ammoniated Superphosphate X, -----		Kreitz-Creek Farmers Cooperative Association, York.	
7110	Ammoniated Superphosphate XXXX, -----		H. J. Forbes, Albion, -----	
	M. L. SHOEMAKER & CO., INC., PHILADELPHIA, PA.			
6055	Swift-Sure Guano for Tomatoes, Truck and Corn.		L. D. Brackbill, Kinser, -----	
6256	Swift-Sure Guano for Tomatoes, Truck and Corn.		H. C. Hartman, Lynnport, -----	
5816	Swift-Sure Phosphate for Tobacco and General Use.		W. E. Ervin, Somerton, -----	
6519	Swift-Sure Phosphate for Tobacco and General Use.		L. A. Steigerwalt, Andreas, -----	
6286	Swift-Sure Phosphate for Tobacco and General Use.		Stephen M. Stoltzfus, Morgantown, -----	
	SOUTHERN FERTILIZING CO., BALTI- MORE, MD.			
6609	Coot Brand Fertilizer, -----		W. H. Siegfried, Kempton, -----	
	W. W. SULLIVAN, LANDENBERG, PA.			
6830	Eclipse Phosphate, -----		Sheehan Brothers, Landenberg, -----	
6829	Potato Phosphate, -----		Sheehan Brothers, Landenberg, -----	
	SWIFT & COMPANY, BALTIMORE, MD.			
6486	Swift's Ammoniated Phosphate, -----		Nazareth Coal & Lumber Co., Nazareth, --	
5769	Swift's Ammoniated Phosphate, -----		P. J. Oesterling & Son, Butler, -----	
6992	Swift's Ammoniated Phosphate, -----		C. B. Tyler, Meshoppen, -----	
6773	Swift's Diamond "C" Grain Fertilizer, -----		Samuel D. Gulden, Schuylkill Haven, -----	
6316	Swift's Diamond "O" Grain Fertilizer, -----		P. W. G. Raker, Elizabethville, -----	
5729	Swift's Phosphate Fertilizer, -----		E. B. Fritz Sons Co., Quarryville, -----	
5957	Swift's Phosphate Fertilizer, -----		S. R. Kline, Benton, -----	
6757	Swift's Schuylkill Valley Favorite, -----		Estate of James Thomas, Williamsport, --	
6184	Swift's Special Corn Grower, -----		Francis Baker, Everett, -----	
7008	Swift's Special Corn Grower, -----		O. P. Beebe, Montrose, -----	
5728	Swift's Special Diamond A Fertilizer, -----		E. B. Fritz Sons Co., Quarryville, -----	
6355	Swift's Special Diamond "M," -----		M. F. Bailey, Wellsboro, -----	
6849	Swift's Special Harrison Formula, -----		Adam Schmell, North Wales, -----	
6731	Swift's Special Harrison Formula, -----		M. C. Stewart, Indiana, -----	
	I. P. THOMAS & SON CO., PHILADEL- PHIA, PA.			
6665	Farmers Choice Fertilizer, -----		Elmer Eby Lititz, -----	
6667	Fish Guano, -----		Elmer Eby Lititz, -----	
6663	Thomas' Triumph Manure, -----		Elmer Eby Lititz, -----	
6957	Thomas' Triumph Manure, -----		David Hertzel, Mechanicsburg, -----	
5947	Thomas' Wheat and Corn Guano, -----		C. R. Henrie, Millville, -----	
6956	Thomas' Wheat and Corn Guano, -----		David Hertzel, Mechanicsburg, -----	
6278	Thomas' Wheat and Corn Guano, -----		Howard Welsh, Douglassville, -----	
6340	Wheat Special, -----		W. H. Heckert's Sons, Bakerstown, -----	
	JACOB TRINLEY & SONS, LINFIELD, PA.			
6357	Favorite Phosphate, -----		S. Clouse & Son, Pottstown, -----	
	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.			
5808	1919 Fish Manure, -----		Edw. Brinton & Son, West Chester, -----	
6688	1919 Fish Manure, -----		Buffalo Valley Producers & Consumers Corporation, Lewisburg.	
5809	Grain Manure, -----		Edw. Brinton & Son, West Chester, -----	

## PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
10.02	1.02	0.82	6.43	9.00	8.46	8.00	0.97	1.00	28 90	5712
5.78	2.20	1.65	13.69	13.00	12.12	12.00	1.57	1.00	44 00	7110
3.75	2.13	1.65	12.07	11.00	*8.79	9.00	3.28	2.00	40 00	6055
3.21	2.13	1.65	12.76	11.00	9.47	9.00	3.29	2.00	39.00	6256
2.96	3.38	3.30	14.41	12.00	11.64	9.00	2.77	3.00	59 00	5816
4.05	3.50	3.30	14.07	12.00	9.94	9.00	4.13	3.00	38 00	6519
8.55	3.70	3.30	13.78	12.00	10.57	9.00	3.21	3.00	56 00	6286
3.40	0.83	0.82	9.36	9.00	8.22	8.00	1.14	1.00	30 00	6309
6.76	1.35	0.82	11.06	-----	9.77	8.00	1.29	-----	36 00	6830
5.69	1.29	0.62	9.87	-----	9.14	6.00	0.73	-----	37 00	6829
3.55	1.25	0.82	12.53	10.00	10.68	10.00	1.85	-----	33 00	6486
9.27	0.95	0.82	10.92	10.50	10.59	10.00	0.33	0.50	35 00	5769
4.75	0.88	0.82	11.89	10.30	10.60	10.00	1.29	-----	34 00	6992
3.45	1.60	0.82	11.67	8.00	10.47	8.00	0.60	-----	33 50	6773
4.57	1.42	0.82	8.56	8.00	7.87	8.00	6.69	-----	31 25	6316
2.70	1.19	0.82	†21.58	0.00	-----	-----	-----	-----	37 00	5729
6.45	1.04	0.82	†20.46	26.00	-----	-----	-----	-----	43 00	5957
2.92	0.68	0.41	7.04	7.00	*6.61	7.00	0.43	-----	28 50	6757
7.63	2.15	1.65	11.89	10.00	10.41	10.00	1.48	-----	40 00	6184
6.85	1.60	1.65	11.08	10.60	*9.43	10.00	1.65	-----	42 00	7008
7.43	*2.18	2.47	9.48	8.00	8.13	8.00	1.35	-----	46 00	5728
3.55	0.80	0.41	8.66	8.00	7.89	8.00	0.77	-----	35 00	6385
8.64	3.20	3.29	9.87	10.00	*8.56	10.00	1.31	-----	55 00	6849
5.60	*2.80	3.29	11.76	10.00	9.97	10.00	1.73	1.00	39 00	6731
9.84	2.80	2.45	11.42	10.30	*9.63	10.00	1.76	0.50	50 00	6635
9.76	*3.89	4.10	12.59	10.50	11.74	10.00	0.85	0.50	63 00	6357
16.11	2.66	0.82	11.77	16.50	9.95	10.00	1.82	0.50	34 25	6636
11.48	1.33	0.82	12.17	16.50	11.07	10.00	1.10	0.50	32 00	6957
11.78	*1.40	1.65	13.29	10.50	11.61	10.30	1.68	0.50	41 00	5947
6.73	2.69	1.65	11.95	10.50	9.87	10.00	2.08	0.50	39 00	6956
7.83	1.95	1.65	12.69	16.50	10.69	10.00	1.91	0.50	41 00	6278
4.50	0.78	0.41	14.68	12.50	12.64	12.00	2.04	0.50	35 00	6340
5.05	1.94	1.65	12.25	11.00	*9.14	10.00	3.14	1.00	41 00	6357
9.18	2.08	1.64	11.75	11.00	*9.79	10.00	1.96	1.00	44 00	5808
4.08	2.29	1.64	11.67	11.00	10.41	10.00	1.26	1.00	40 75	6388
7.72	1.23	0.82	14.40	13.00	12.88	12.00	1.52	1.00	38 00	5809

\*Deficient.

†Excluded from average.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6689	Grain Manure, -----	Buffalo Valley Producers & Consumers Cor- poration, Lewisburg.
6690	1919 Lightening Guano, -----	Buffalo Valley Producers & Consumers Cor- poration, Lewisburg.
6636	1919 Potato and Vegetable Manure, -----	M. C. Michener, Media, -----
	THE J. E. TYGERT COMPANY, SUBSID- IARY OF THE AMERICAN AGRICUL- TURAL CHEMICAL CO., PHILADEL- PHIA, PA.	
6668	Ammoniated Fertilizer A, -----	Edwin F. Stover, Perkasio, -----
6389	Ammoniated Fertilizer AA, -----	Hugh Davie Cowan, Mansfield, -----
6358	Ammoniated Fertilizer AA, -----	W. H. Lenhard, Phoenixville, -----
6869	Ammoniated Fertilizer AA, -----	Edwin F. Stover, Perkasio, -----
6900	Pawnee Phosphate, -----	Silas Farrell, Sizerville, -----
6587	Pawnee Phosphate, -----	A. M. Kinney, Port Allegany, -----
6136	Pawnee Phosphate, -----	Elias Meyer, Fredericksburg, -----
	UNION CHEMICAL WORKS, INC., NORTH WALES, PA.	
6542	One Eight Mixture, -----	Charles Wegschneider, Line Lexington, -----
6543	Two Eight Mixture, -----	Charles Wegschneider, Line Lexington, -----
6370	Two Ten Mixture, -----	John C. Zeigler, Limerick, -----
	THE W. E. WHANN CO., PHILADEL- PHIA, PA.	
6674	Whann's Chester Valley Liberty Brand Su- per Phosphate AA.	Umble Brothers, Bird-in-Hand, -----
	THE ROBERT A. WOOLDRIDGE CO., SUBSIDIARY OF THE AMERICAN AG- RICULTURAL CHEMICAL CO., BALTI- MORE, MD.	
5937	Wooldridge's Old Fidelity Phosphate, -----	Lehigh Exchange, Germansville, -----
	YORK CHEMICAL WORKS, YORK, PA.	
6036	Dempwolf's Corn & Oats, -----	Felix Herb, Pitman, -----
6391	Dempwolf's Corn & Oats, -----	Arthur Nicholas, Blossburg, -----
5902	Dempwolf's Corn & Oats, -----	Red Lion Farmers Cooperative Association, Red Lion.
6832	Dempwolf's Golden Sheaf, -----	Harry Pyle & Sons, Chadds Ford Junction,
6503	Dempwolf's Potato & Truck, -----	E. A. Beck, Lehighton, -----
5996	Dempwolf's R. B. Special, -----	Edward F. Bracken, Paoli, -----
6673	Dempwolf's R. B. Special, -----	H. M. Stauffer, Leola, -----
5807	Dempwolf's Spring Special, -----	Thomas Haines Co., Malvern, -----
6366	Dempwolf's York Special, -----	James K. Lewis, Honesybrook, -----
		Average, -----

## PHORIC ACID FERTILIZERS—Concluded.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	\$	
4.86	2.13	6.82	12.51	13.00	*11.13	12.00	1.38	1.00	33 50	6389
6.65	4.44	4.12	10.06	9.00	8.39	8.00	1.67	1.00	61 75	6390
7.10	2.11	1.64	12.04	11.00	16.13	10.00	1.91	1.00	44 00	6336
8.61	1.30	0.82	11.16	11.00	10.10	10.00	1.06	1.00	35 00	6368
7.31	2.28	1.65	11.56	11.00	10.57	10.00	0.99	1.00	41 25	6389
4.26	1.80	1.65	10.77	11.00	9.94	10.00	0.83	1.00	40 00	6358
4.32	2.28	1.65	11.05	11.00	10.22	10.00	0.83	1.00	42 00	6389
8.72	1.05	0.82	9.45	9.00	8.42	8.00	1.03	1.00	30 25	6900
5.95	6.95	0.82	9.46	9.00	8.48	8.00	0.98	1.00	32 50	6357
3.75	1.23	0.82	8.71	9.00	*7.63	8.00	1.03	1.00	31 50	6736
6.64	0.73	0.82	8.30	8.00	*7.71	8.00	0.59	-----	34 00	6342
8.08	1.51	1.64	8.79	8.00	8.02	8.00	0.77	-----	38 75	6343
10.09	1.78	1.64	10.45	10.00	*9.77	10.00	0.63	-----	40 00	6370
6.34	2.08	1.65	11.24	11.00	10.46	10.00	0.78	1.00	39 50	6674
7.60	2.02	1.65	11.45	11.00	10.44	10.00	1.01	1.00	37 50	5937
7.65	2.44	2.47	11.34	-----	10.75	10.00	0.59	-----	-----	6036
5.40	2.34	2.47	11.79	-----	10.51	10.00	1.28	-----	49 00	6391
10.04	2.70	2.47	11.41	-----	10.67	10.00	0.74	-----	45 35	5902
2.66	1.26	0.82	9.89	-----	8.82	8.00	1.07	-----	30 00	6832
4.10	4.44	4.11	8.71	-----	8.25	8.00	0.46	-----	60 00	6536
3.26	1.71	1.65	11.63	-----	10.12	10.00	1.54	-----	45 00	5956
3.84	1.93	1.65	13.14	-----	10.67	10.00	2.47	-----	47 00	6073
4.29	3.61	3.29	16.84	-----	10.20	10.00	0.64	-----	52 25	5807
8.74	1.01	0.82	13.80	-----	12.65	12.00	1.15	-----	34.00	6366
6.45	1.58	-----	11.17	-----	9.75	-----	1.42	-----	37 99	-----

TABLE NO. III—GROUND  
Furnishing Nitrogen

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
5784	Fine Ground Bone, -----	Harmony Cereal Mills, Harmony, -----
5847	Fine Ground Bone, -----	Clarence Hartzel, Richmond, -----
6711	Fine Ground Bone, -----	G. A. Spencer, Waverly, -----
6346	High Grade Ground Bone, -----	Simpson Brothers, Norristown, -----
6942	High Grade Ground Bone, -----	H. L. Stultz & Brother, Altoona, -----
7068	High Grade Ground Bone, -----	Weaver & Berkey, Windber, -----
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
6060	American Pure Raw Bone, -----	Jones Evanson, Christiana, -----
	ARMOUR FERTILIZER WORKS, BALTI- MORE, MD.	
6896	Bone Meal, -----	R. G. Hendryx, Coudersport, -----
6920	Bone Meal, -----	Hibner-Hoover Hardware Co., DuBois, -----
6591	Bone Meal, -----	Kane Milling Grocery Co., Kane, -----
	THE BERG COMPANY, PHILADEL- PHIA, PA.	
5990	Berg's 3 & 50 Bone, -----	Wm. H. Walker & Co., Kennett Square, -----
	THE COE-MORTIMER COMPANY, SUB- SIDIARY OF THE AMERICAN AGRICUL- TURAL CHEMICAL CO., NEW YORK, N. Y.	
6198	Fine Ground Bone, -----	Lester Karnes & Geo. Ward, Clearville, -----
	JACOB DOLD PACKING CO., BUFFALO, N. Y.	
6086	Dold Quality Bone Meal, -----	H. P. Freas, Dunmore, -----
7105	Dold Quality Bone Meal, -----	S. F. McQuiston, Meadville, -----
6597	Dold Quality Bone Meal, -----	Smith Brothers, Bradford, -----
	GREENCASTLE FERTILIZER, HIDE & RENDERING CO., GREENCASTLE, PA.	
6581	Ground Bone, -----	The Greencastle Fertilizer, Hide & Rendering Co., Greencastle.
	GRIFFITH & BOYD COMPANY, BALTI- MORE, MD.	
5985	Pure Fine Ground Bone Meal, -----	E. A. & James L. Pennoek, Chatham, -----
5735	Soft Ground Bone Meal, -----	W. C. Herr, Strasburg, -----
	HALFLEIGH & COMPANY, PHILADEL- PHIA, PA.	
6333	Pure Raw Bone Meal, -----	S. C. Walker, Chadds Ford Junction, -----
	S. M. HESS & BROTHER, INC., SUBSI- DIARY OF THE AMERICAN AGRICUL- TURAL CHEMICAL CO., PHILADEL- PHIA, PA.	
6535	High Grade Ground Bone, -----	Mary Tressler, Conyngham, -----
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.	
6933	Hubbard's Pure Raw Bone, -----	J. F. Crissman, South Fork, -----
	INTERNATIONAL AGRICULTURAL COR- PORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
6210	Bone Meal, -----	A. C. Daugherty, Grove City, -----

## BONE FERTILIZERS.

and Phosphoric Acid.

Moisture.	CHEMICAL ANALYSIS.				MECHANICAL ANALYSIS.		Selling price per ton at place of selection.	Chemist's number.
	NITROGEN.		PHOSPHORIC ACID.		Fine.	Coarse.		
	Found.	Guaranteed.	Found.	Guaranteed.				
%	%	%	%	%	%	%	\$	
10.40	2.68	2.47	23.88	22.88	61	36	48 00	5784
5.50	2.65	2.47	24.34	22.88	68	32	51 00	5847
11.25	3.24	2.47	25.23	22.88	67	33	56 00	6711
3.47	3.25	3.29	22.81	20.59	53	17	62 00	6346
6.25	4.42	3.29	20.54	20.59	50	50	65 00	6942
7.00	3.92	3.29	21.17	20.59	45	55	64 00	7063
6.72	3.88	3.70	23.47	20.60	38	62	58 00	6060
3.59	2.33	2.47	25.63	22.00	66	34	49 00	6890
3.70	3.19	2.47	24.92	22.00	65	35	60 00	6920
8.20	2.40	2.47	26.10	22.00	56	44	52 00	6591
8.43	2.90	2.47	23.05	23.00	76	24	52 50	5990
4.07	2.85	2.47	24.68	22.88	67	33		6198
3.61	3.48	2.47	*22.12	23.00	82	18	48 00	6086
3.79	2.85	2.47	26.24	23.00	75	25	50 00	7105
4.41	3.33	2.47	*22.68	23.00	74	26	45 00	6597
6.72	4.83	3.28	22.25	17.20	23	77	35 00	6681
5.29	3.44	3.30	*17.54	20.00	53	47	60 00	5985
3.51	2.50	2.50	12.77	11.00	67	33	58 00	5735
8.72	4.40	3.75	*23.29	25.84	58	42	58 50	6533
11.28	3.35	3.29	23.99	20.59	76	24	62 00	6535
7.21	4.52	3.69	23.63	22.50	50	50	65 00	6933
4.62	*1.91	2.50	23.74	22.00	69	31	50 00	6210

\*Deficient.

TABLE III—GROUND BONE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
7015	THE LEBANON FERTILIZER WORKS, LEBANON, PA. Levan's Pure Fine Ground Bone Meal, -----	E. J. Roosa & Co., Halstead, -----
6040	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J. Lister's Bone Meal, 1916, -----	R. A. Eroh, Weatherly, -----
6784	Lister's Bone Meal, 1916, -----	W. S. Vansickler, Varden, -----
6337	PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA. No. 1 Pure Raw Bone Meal, -----	The I. W. Scott Co., Pittsburgh, -----
6338	Pure Raw Bone Meal, -----	The I. W. Scott Co., Pittsburgh, -----
6203	READING BONE FERTILIZER CO., READING, PA. Pure Bone Meal, -----	Geo. E. McQuiston, Grove City, -----
6046	ROBERT A. REICHARD, ALLENTOWN, PA. Steamed Bone Meal, -----	James B. Adams, Weatherly, -----
6466	REICHARD HIDE & TALLOW CO., ASHLAND, PA. Steam Ground Bone, -----	John E. Billig, Catawissa, -----
6467	Steam Ground Bone, -----	John E. Billig, Catawissa, -----
6430	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD. Royster's Fine Ground Bone Meal, -----	Anderson & Loucks Hardware Co., Con- nellsville.
6079	Royster's Fine Ground Bone Meal, -----	C. H. H. Bauman, Scranton, -----
6123	SICKLER FERTILIZER WORKS, PLY- MOUTH, PA. Pure Ground Bone, -----	G. F. Clark, Scranton, -----
5958	SWIFT & CO., BALTIMORE, MD. Swift's Bone Meal Fertilizer, -----	S. R. Kline, Benton, -----
6732	Swift's Steamed Bone Fertilizer, -----	M. S. Stewart, Indiana, -----
6756	Swift's Steamed Bone Fertilizer, -----	S. G. Updegraff & Son, Williamsport, -----
7094	Swift's 2¼-29 Bone Fertilizer, -----	E. P. Allen & Co., Titusville, -----
6444	Swift's 2¼-29 Bone Fertilizer, -----	Clinton H. Pepper, West Brownsville, -----
6647	I. P. THOMAS & SON CO., PHILADEL- PHIA, PA. Pure Ground Bone, -----	J. I. Dick Hardware Co., Scottdale, -----
6297	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA. Pure Ground Bone, -----	Floyd Merkel, Hamburg, -----
6362	Pure Ground Bone, -----	John W. Root, Kimberton, -----
6087	THE EMIL WAHL MANUFACTURING CO., PHILADELPHIA, PA. Warranted Pure Philadelphia Button Bone Meal.	H. Pomsard, Dunmore, -----
6343	Warranted Pure Philadelphia Button Bone Meal.	Jos. R. Taggart, Norristown, -----
5995	YORK CHEMICAL WORKS, PORK, PA. Dempwolf's Pure Ground Bone, -----	Edward F. Bracken, Paoli, -----
		Average, -----

## FERTILIZERS—Concluded.

Moisture.	CHEMICAL ANALYSIS.				MECHANICAL ANALYSIS.		Selling price per ton at place of selection.	Chemist's number.
	NITROGEN.		PHOSPHORIC ACID.		Fine.	Coarse.		
	Found.	Guaranteed.	Found.	Guaranteed.				
% 3.80	% 2.59	% 2.47	% 24.47	% 22.89	% 56	% 44	-----	7015
10.04 5.30	3.14 3.50	2.47 2.47	23.84 24.24	23.00 23.00	58 53	42 47	----- 53 00	6040 6784
4.82 5.18	4.16 3.83	3.70 3.70	22.53 21.29	22.00 21.00	63 73	37 27	50 00 48 00	6337 6338
6.16	3.16	2.46	24.05	23.00	50	50	58 00	6203
11.01	3.18	2.88	25.88	22.00	54	46	52 00	6046
10.03 13.49	3.13 3.59	2.47 2.47	25.52 23.09	22.88 22.83	52 32	48 68	50 00 55 00	6463 6467
5.29 3.97	2.78 2.81	2.47 2.47	24.39 24.68	22.90 22.90	52 61	48 39	55 00 65 00	6439 6079
5.10	3.10	2.34	26.15	22.00	37	63	60 00	6123
3.65 5.55 5.90 3.79 8.48	2.75 2.02 1.88 2.06 2.50	2.47 1.65 1.65 1.85 1.85	*23.15 *26.02 *26.67 29.10 *27.48	24.00 28.00 28.00 29.00 29.00	65 57 61 78 77	35 43 39 22 23	54 50 56 00 55 00 50 00 50 00	5958 6732 6756 7094 6444
3.89	2.69	2.45	25.49	23.00	57	43	75 00	6647
7.74 3.82	*2.17 2.90	2.46 2.46	28.52 25.19	23.00 23.00	52 54	48 46	50 00 55 00	6297 6362
9.03 8.28	3.99 3.95	3.75 3.75	25.10 25.69	25.00 25.00	76 87	24 13	75 00 57 50	6057 6343
3.88 6.35	2.91 3.14	2.47 -----	25.21 24.00	23.00 -----	63 61	37 39	52 00 53 81	5995 -----

\*Deficient.

TABLE NO. IV.—ACIDULATED  
Furnishing

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
6195	12% Acid Phosphate, -----	G. B. Lutz, Lutzville, -----
6324	14% Acid Phosphate, -----	Wm. Gates Estate, Kittanning, -----
6999	14% Acid Phosphate, -----	Grover Trading Co., Grover, -----
6218	14% Acid Phosphate, -----	E. E. Trilby, West Middlesex, -----
5886	16% Acid Phosphate, -----	J. H. Campbell, Burlington, -----
6586	16% Acid Phosphate, -----	B. C. Gallup, Port Allegany, -----
6962	16% Acid Phosphate, -----	W. S. Stuart, Carlisle, -----
5789	Basic Lime Phosphate, -----	H. P. Passmore & Brother, Oxford, -----
6187	Josiah Cope & Co.'s Acidulated Phosphate, -----	J. S. Hershberger, Everett, -----
6188	Josiah Cope & Co.'s High Grade Superphosphate, -----	J. S. Hershberger, Everett, -----
6416	Josiah Cope & Co.'s High Grade Superphosphate, -----	Petersburg Cooperative Elevator Co., Petersburg, -----
5798	Josiah Cope & Co.'s High Grade Superphosphate, -----	O. W. Shortlidge, Lincoln University, -----
6241	W. S. Farmer & Co. Brand Dissolved S. C. Phosphate, -----	J. W. Duttera, Jr., New Oxford, -----
6180	Ludlam's Ceerops Fertilizer Dissolved Phosphate, -----	D. B. Griffith, Wolfsburg, -----
5830	Ludlam's Ceerops Fertilizer, High Grade Dissolved Phosphate, -----	J. F. Auker, Millintown, -----
7048	Ludlam's Ceerops Fertilizer, High Grade Dissolved Phosphate, -----	N. B. Shober, Garret, -----
7054	Ludlam's Ceerops Fertilizer, High Grade Dissolved Phosphate, -----	West Salisbury Feed Co., West Salisbury, -----
5790	Susquehanna Dissolved S. C. Rock, -----	H. P. Passmore & Brother, Oxford, -----
5694	Susquehanna High Grade Superphosphate, -----	J. J. Jacobs, York Springs, -----
5673	Susquehanna High Grade Superphosphate, -----	J. H. Kettering & Son, Palmyra, -----
5792	Susquehanna High Grade Superphosphate, -----	H. P. Passmore & Brother, Oxford, -----
6930	Wheeler's High Grade Acid Phosphate, -----	A. S. Kelley, Ebensburg, -----
6376	Wheeler's High Grade Acid Phosphate, -----	J. Harold Long, Flemington, -----
6407	Wheeler's High Grade Acid Phosphate, -----	J. H. Pucky, Rockhill Furnace, -----
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
7014	American High Grade Acid Phosphate, -----	W. H. Hortman, Hopbottom, -----
5821	High Grade Acid Phosphate, -----	J. H. Neidigh, State College, -----
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
6974	Armour's Acid Phosphate, 16%, -----	Nickles & Stewart, Shippensburg, -----
7021	Armour's Acid Phosphate, 16%, -----	B. F. Schuller, Volant, -----
6374	Armour's Acid Phosphate, 16%, -----	Geo. R. Thompson, Chatham Run, -----
6404	Armour's Star Phosphate, 14%, -----	H. E. Huston, Saltillo, -----
6975	Armour's Star Phosphate, 14%, -----	Nickles & Stewart, Shippensburg, -----
7115	Armour's Star Phosphate, 14%, -----	W. D. Ripley, Wesleyville, -----
5933	Tusearora Acid Phosphate, 14%, -----	E. A. Peters, Slatington, -----
6325	Tusearora Acid Phosphate, 16%, -----	Wm. Gates Estate, Kittanning, -----
	ATLANTIC FERTILIZER WORKS (SWIFT & COMPANY, OWNERS), BALTIMORE, MD.	
6393	Atlantic Dissolved Phosphate, -----	F. A. Ackley, Westfield, -----
5962	Atlantic Dissolved Phosphate, -----	M. Getty, Orangeville, -----
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
6214	Baugh's 14% Acid Phosphate, -----	J. M. Hogland & Co., Sharon, -----
6914	Baugh's 14% Acid Phosphate, -----	Rouch & Swartzle, Clearfield, -----
6234	Baugh's 14% Acid Phosphate, -----	M. J. Sheffer, Hanover, -----

## PHOSPHATE FERTILIZERS.

## Phosphoric Acid.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	\$	
5.29	13.19	13.00	12.26	12.00	0.93	1.00	25 25	6195
5.76	15.03	15.00	14.00	14.00	1.03	1.00	28 00	6324
9.09	15.84	15.00	15.66	14.00	0.18	1.00	29 00	6999
3.99	15.05	15.00	14.31	14.00	1.34	1.00	30 00	6218
7.50	17.11	17.00	16.01	16.00	1.10	1.00	29 00	5886
3.08	17.69	17.00	16.17	16.00	1.52	1.00	34 50	6586
10.98	16.63	17.00	16.37	16.00	0.09	1.00	27 00	6962
4.63	14.68	14.00	*12.70	13.00	1.98	1.00	27 50	5789
7.00	15.24	15.00	14.65	14.00	0.59	1.00	28 00	6187
9.55	16.95	17.00	16.29	16.00	0.36	1.00	29 00	6188
10.19	16.75	17.00	16.69	16.00	0.15	1.00	29 00	6416
11.62	16.84	17.00	16.39	16.00	0.45	1.00	27 00	5798
6.43	15.52	15.00	15.15	14.00	0.37	1.00	24 50	6241
5.71	15.73	15.00	14.65	14.00	1.08	1.00	-----	6180
5.22	17.79	17.00	17.60	16.00	0.19	1.00	25 64	5830
7.18	17.16	17.00	16.88	16.00	0.28	1.00	29 00	7048
10.06	17.21	17.00	17.11	16.00	0.10	1.00	28 00	7054
8.94	14.69	15.00	14.05	14.00	0.64	1.00	25 00	5790
9.19	17.71	17.00	17.60	16.00	0.11	1.00	-----	5694
11.82	16.63	17.00	15.98	16.00	0.65	1.00	-----	5673
11.28	16.83	17.00	16.23	16.00	0.60	1.00	27 00	5792
9.97	17.26	17.00	17.11	16.00	0.15	1.00	29 00	6930
8.35	16.46	17.00	16.27	16.00	0.19	1.00	30 00	6376
9.25	17.25	17.00	16.48	16.00	0.77	1.00	30 00	6407
8.58	17.58	17.00	16.94	16.00	0.64	1.00	28 00	7014
6.33	16.40	15.00	16.92	14.00	0.48	1.00	27 00	5821
5.95	16.95	16.50	16.81	16.00	0.14	0.50	27 00	6974
2.60	17.32	16.50	16.48	16.00	0.84	0.50	30 00	7021
5.33	17.82	16.50	17.42	16.00	0.40	0.50	28 00	6374
7.60	14.16	14.50	13.97	14.00	0.19	0.50	29 00	6104
4.18	14.77	14.50	14.45	14.00	0.32	0.50	23 00	6975
4.38	15.01	14.50	14.51	14.00	0.50	0.50	26 00	7118
3.98	14.81	14.50	*13.60	14.00	1.21	0.50	25 00	5933
6.25	17.64	16.50	16.63	16.00	1.61	0.50	29 50	6325
5.26	17.14	16.00	*15.34	16.00	1.80	-----	28 00	6393
6.10	17.04	16.00	*15.08	16.00	1.96	-----	27 50	5962
6.00	14.29	14.00	14.20	14.00	0.09	-----	27 00	6214
7.15	14.14	14.00	13.97	14.00	0.17	-----	25 00	6914
8.74	16.53	14.00	15.00	14.00	1.58	-----	27 28	6234

\*Deficient.

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6084	Baugh's 16% Acid Phosphate, -----	B. E. & J. F. Cokely, Seranton, -----
5889	Baugh's 16% Acid Phosphate, -----	Farmers Consumers Commercial Union, Troy.
5768	Baugh's 16% Acid Phosphate, -----	P. J. Oesterling & Son, Butler, -----
	THE BERG COMPANY, PHILADELPHIA, PA.	
5992	16% Acid Phosphate, -----	Wm. H. Walker & Co., Kennett Square,---
	BOWKER FERTILIZER COMPANY, SUB- SIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
6895	Bowker's 12% Acid Phosphate, -----	Bunker & Burdic, Millport, -----
7024	Bowker's 12% Acid Phosphate, -----	G. W. Walton Hardware Co., Beaver, ---
6793	Bowker's 16% Acid Phosphate, -----	George Earhardt, Newfoundland, -----
6884	Bowker's 16% Acid Phosphate, -----	W. H. Hartwick, Coudersport, -----
5853	Bowker's 16% Acid Phosphate, -----	Isaac Snyder, Bangor, -----
6718	Bowker's Soluble Phosphate, -----	E. Cobley & Son, Moscow, -----
5856	Bowker's Soluble Phosphate, -----	Isaac Snyder, Bangor, -----
7025	Bowker's Soluble Phosphate, -----	G. W. Walton Hardware Co., Beaver, ---
	S. B. BRODBECK, BRODBECKS, PA.	
6228	Brodbeck's Ruth Dissolved Phosphate, -----	Brodbeck & Rohrbaugh, Brodbecks, -----
	THE CENTRAL CHEMICAL COMPANY (THOMAS FERTILIZER WORKS), HAGERSTOWN, MD.	
6396	C. C. C. Dissolved Phosphate, 12%, -----	J. L. Seagers, Westfield, -----
6139	C. C. C. Dissolved Phosphate, 12%, -----	Jacob Zook, Belleville, -----
6904	C. C. C. Dissolved Phosphate, 14%, -----	Ditz & Mooney, Clarion, -----
6395	C. C. C. Dissolved Phosphate, 14%, -----	J. L. Seagers, Westfield, -----
6138	C. C. C. Dissolved Phosphate, 14%, -----	Jacob Zook, Belleville, -----
6464	C. C. C. Dissolved Phosphate, 16%, -----	John Kline, Bloomsburg, -----
	THE CHESAPEAKE CHEMICAL COMPANY, BALTIMORE, MD.	
6950	Chesapeake 16% Dissolved Phosphate, -----	C. M. Dietz & Son, Mechanicsburg, -----
	THE COE-MORTIMER COMPANY, SUB- SIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
6778	E. Frank Coe's Basic Fruit and Legume Phosphate.	Clinton Berger, Friedensburg, -----
6979	E. Frank Coe's Basic Fruit and Legume Phosphate.	B. R. Summer & Co., Waynesboro, -----
7089	E. Frank Coe's High Grade Soluble Phos- phate.	C. C. Decker, Farmers Valley, -----
5946	E. Frank Coe's High Grade Soluble Phos- phate.	H. C. Hartman, Lynnport, -----
5881	E. Frank Coe's High Grade Soluble Phos- phate.	Amandus Renner, Norristown, -----
6103	E. Frank Coe's 16% Superphosphate, -----	Abington Lumber Co., Dalton, -----
7004	E. Frank Coe's 16% Superphosphate, -----	E. L. Lanc, Wellsburg, -----
6105	E. Frank Coe's 16% Superphosphate, -----	G. B. Swartz, Madisonville, -----
	COLUMBIA GUANO COMPANY, BALTI- MORE, MD.	
6122	Columbia High Grade 16% Acid Phosphate, -----	G. R. Clark, Seranton, -----
6277	Columbia High Grade 16% Acid Phosphate, -----	J. P. Fisher, Douglassville, -----
	THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y.	
6997	Consumers High Grade Acid Phosphate,-----	Philip Crandall, Alba, -----
6094	Consumers High Grade Acid Phosphate,-----	F. L. Thompson, Clark Summit, -----

## PHOSPHATE FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	\$	
10.06	16.48	16.00	16.33	16.00	6.15	-----	40 00	6084
9.27	17.42	16.00	16.83	16.00	6.59	-----	29 50	5889
5.98	16.25	16.00	15.92	16.00	6.33	-----	28 50	5703
10.72	17.05	16.25	15.99	16.00	1.06	0.25	26 00	5992
4.60	13.96	13.00	12.72	12.00	1.24	1.00	29 00	6895
2.46	14.18	13.00	12.73	12.00	1.45	1.00	28 00	7021
9.06	16.26	17.00	*15.05	16.00	1.21	1.00	30 00	6793
4.72	17.34	17.00	16.24	16.00	1.10	1.00	28 75	6584
7.21	18.28	17.00	16.20	16.00	2.08	1.00	28 50	5853
7.25	15.63	15.00	14.61	14.00	1.07	1.00	31 00	6718
9.11	15.32	15.00	14.61	14.00	0.71	1.00	27 00	5856
6.27	15.05	15.00	13.88	14.00	1.17	1.00	32 00	7025
6.16	16.52	15.00	15.75	14.00	0.77	1.00	24 50	6228
8.55	15.31	-----	14.48	12.00	0.83	-----	27 00	6396
7.47	15.70	-----	15.33	12.00	0.37	-----	26.25	6139
5.81	17.54	-----	16.63	14.00	0.91	-----	27 00	6904
10.07	16.02	-----	15.19	14.00	0.83	-----	30 00	6395
8.12	16.07	-----	15.75	14.00	0.82	-----	27 65	6138
9.74	17.85	-----	16.13	16.00	1.72	-----	25 90	6464
6.23	17.64	17.00	16.91	16.00	0.73	1.00	27 55	6950
2.78	15.47	14.00	14.56	13.00	0.91	1.00	-----	6778
1.91	15.54	14.00	13.26	13.00	2.28	1.00	30 00	6979
2.63	14.90	15.00	13.97	14.00	0.93	1.00	28 00	7089
7.50	14.31	15.00	13.99	14.00	0.32	1.00	28 00	5946
6.12	15.09	15.00	14.06	14.00	1.03	1.00	25 00	5861
9.41	17.11	17.00	15.81	16.00	1.30	1.00	30 00	6103
5.16	18.06	17.00	17.92	16.00	0.14	1.00	31 75	7004
7.70	17.13	17.00	15.85	16.00	1.28	1.00	30 00	6105
7.66	16.63	16.50	16.03	16.00	0.62	0.50	31 00	6122
5.29	17.76	16.50	16.15	16.00	1.61	0.50	28 80	6277
6.71	17.14	17.00	16.88	16.00	0.26	1.00	-----	6997
8.01	17.26	17.00	16.62	16.00	0.64	1.00	29 00	6094

\*Deficient.

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	DUBOIS FERTILIZER WORKS, INC., DUBOIS, PA.	
6601	14% Acid Phosphate, 1919, -----	L. A. Chase & Son, Russell, -----
5891	16% Acid Phosphate, 1919, -----	Farmers Cooperative Union, Granville Summit.
5744	16% Acid Phosphate, 1919, -----	A. H. Snyder, Strawberry Ridge, -----
7029	16% Acid Phosphate, 1919, -----	S. Leroy Tuttle, Franklin, -----
5743	Lime Phosphate, 1919, -----	A. H. Snyder, Strawberry Ridge, -----
	EASTERN GUANO COMPANY, NEW YORK, N. Y.	
6976	Eastern Dissolved Phosphate, -----	Diehl, Omwake & Diehl, Greencastle, -----
	FARMERS CO-OPERATIVE UNION, MANSFIELD, PA.	
6382	Acid Phosphate, -----	Farmers Co-operative Union, Wellsboro, --
	FARMERS FERTILIZER WORKS, ELIZA- BETHTOWN, PA.	
5741	Acid Phosphate, 16%, -----	H. H. Martin, Manheim, -----
	GREENCASTLE FERTILIZER, HIDE & RENDERING CO., GREENCASTLE, PA.	
6382	Acid Phosphate, -----	Greencastle Fertilizer, Hide & Rendering Co., Greencastle.
	GRIFFITH & BOYD COMPANY, BALTI- MORE, MD.	
5752	Acid Phosphate, -----	J. S. Artley, Muney, -----
6925	Acid Phosphate, -----	Farmers Supply House, Punxsutawney, --
5734	High Grade 16% Acid Phosphate, -----	W. C. Herr, Strasburg, -----
6580	High Grade 16% Acid Phosphate, -----	J. C. Leib & Co., Stewartstown, -----
5987	High Grade 16% Acid Phosphate, -----	E. A. & James L. Pennock, Chatham, ----
	S. M. HESS & BROTHER, INC., SUBSI- DIARY OF THE AMERICAN AGRICUL- TURAL CHEMICAL CO., PHILADEL- PHIA, PA.	
6386	High Grade Acid Phosphate, -----	R. G. Hendryx, Coudersport, -----
6814	High Grade Acid Phosphate, -----	Frank R. Reighard, Bedford, -----
6508	High Grade Acid Phosphate, -----	Geo. Sweitzer, Lehighton, -----
6006	Special High Grade Acid Phosphate, -----	Samuel Buffington, Sacramento, -----
6219	Special High Grade Acid Phosphate, -----	John Chisholm, Mercer, -----
6134	Special High Grade Acid Phosphate, -----	A. N. Riden, Lewistown, -----
	M. P. HUBBARD CO., INC., BALTI- MORE, MD.	
5892	Hubbard's Dissolved Phosphate, -----	Merritt Brothers, Granville Summit, -----
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.	
5956	Hubbard's 14% Acid Phosphate, -----	S. R. Kline, Benton, -----
5817	Hubbard's 16% Phosphate, -----	John Bathgate, Lemont, -----
6934	Hubbard's 16% Phosphate, -----	J. E. Crissman, South Fork, -----
5955	Hubbard's 16% Phosphate, -----	S. R. Kline, Benton, -----
	INTERNATIONAL AGRICULTURAL COR- PORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
6206	Buffalo, 16%, -----	A. C. Daugherty, Grove City, -----
5783	Buffalo, 16%, -----	Harmony Cereal Mills, Harmony, -----
6392	Buffalo, 16%, -----	Snyder Brothers, Liberty, -----
7035	I. A. C. Acid Phosphate, -----	Clyde D. Duffee, Oil City, -----
5778	I. A. C. Acid Phosphate, -----	H. F. Gelbach, Evans City, -----
6901	I. A. C. Acid Phosphate, -----	J. P. Jones Hardware Co., Summerville, --

## PHOSPHATE FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	\$	
5.67	15.86	14.50	15.48	14.00	0.32	0.50	32 00	6601
5.63	16.66	16.80	*14.44	16.00	1.62	0.80	-----	5891
6.60	16.05	16.80	*15.53	16.00	0.52	0.80	26 50	5744
8.52	16.85	16.80	15.86	16.00	0.99	0.80	30 09	7029
1.43	8.73	8.40	*7.00	8.50	1.73	0.40	26 00	5743
7.35	17.63	-----	16.42	16.00	1.21	-----	27 50	6976
6.50	16.29	16.80	*15.59	16.00	0.70	0.80	27 00	6382
8.71	16.23	17.00	15.92	16.00	6.31	1.00	26 00	5741
8.50	16.61	16.50	16.46	16.00	0.15	0.50	22 00	6682
9.31	16.06	15.00	15.58	14.00	0.48	1.00	28 75	5752
8.41	16.34	15.00	15.70	14.00	0.64	1.00	29 00	6925
11.13	16.84	17.00	16.43	16.00	0.41	1.00	28 00	5734
7.13	17.22	17.00	16.39	16.00	0.83	1.00	28 00	6580
6.88	16.42	17.00	16.08	16.00	0.34	1.00	28 00	5987
7.27	15.18	15.00	*13.88	14.00	1.80	1.00	28 50	6586
7.37	15.23	15.00	14.55	14.00	0.68	1.00	25 00	6814
6.24	15.37	15.00	14.03	14.00	1.34	1.00	26 00	6508
8.60	16.97	17.00	16.54	16.00	0.43	1.00	-----	6306
2.53	17.73	17.00	16.67	16.00	1.06	1.00	29 00	6219
7.21	17.48	17.00	17.24	16.00	0.24	1.00	-----	6134
10.62	16.91	17.00	*15.66	16.00	1.25	1.00	25 90	5892
7.52	16.70	15.00	15.83	14.00	0.87	1.00	27 00	5956
7.92	18.50	17.00	17.73	16.00	0.77	1.00	27 50	5817
4.26	16.79	17.00	16.52	16.00	0.27	1.00	30 50	6934
6.87	17.13	17.00	16.19	16.00	0.94	1.00	28 50	5950
7.00	17.44	17.00	16.16	16.00	1.28	1.00	31 00	6206
8.90	17.76	17.00	16.29	16.00	1.47	1.00	29 00	5783
6.90	17.64	17.00	16.26	16.00	1.38	1.00	27 50	6392
4.26	18.28	17.00	17.43	16.00	0.85	1.00	30 25	7035
9.21	17.59	17.00	16.38	16.00	1.21	1.00	30 00	5778
3.16	18.18	17.00	18.04	16.00	0.14	1.00	27 00	6901

\*Deficient.

TABLE IV—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE JARECKI CHEMICAL CO., SANDUSKY, OHIO.	
7031	C. O. D. Phosphate, -----	Eugene Burnett, Utica, -----
7020	C. O. D. Phosphate, -----	Wm. H. Stevenson, Volant, -----
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
6533	Granger's Acid Phosphate, -----	Salems Grange, Berwick, -----
7090	Granger's Acid Phosphate, -----	R. M. Simar, Turtle, -----
	THE LANCASTER BONE FERTILIZER COMPANY, LANCASTER, PA.	
6274	Grange Special, -----	Ed. Ulrich, Meyerstown, -----
	THE LANCASTER CHEMICAL COM- PANY, LANCASTER, PA.	
6819	No. 16 Phosphoric Acid Special, -----	Adam Beach, New Enterprise, -----
5714	No. 16 Phosphoric Acid Special, -----	Kreitz Creek Farmers Co-operative Associa- tion, York.
	THE LEBANON FERTILIZER WORKS, LEBANON, PA.	
6035	Levan's Acid Phosphate, -----	I. E. Artz, Hegins, -----
	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
6423	Lister's Buyers Choice Acid Phosphate, ---	Ben Everhart, Franklinville, -----
6648	Lister's Buyers Choice Acid Phosphate, ---	J. Harvey Miller, Ligonier, -----
5976	Lister's Buyers Choice Acid Phosphate, ---	Zehure Brothers, Bloomsburg, -----
7053	Lister's High Grade Acid Phosphate, -----	S. J. Ringler, Elk Lick, -----
6728	Lister's High Grade Acid Phosphate, -----	W. S. Vansickler, Varden, -----
6704	Lister's Soluble Phosphate, -----	Herman & Bolig, Selinsgrove, -----
5699	Lister's Soluble Phosphate, -----	W. W. Schriver, Dillsburg, -----
6811	Lister's Soluble Phosphate, -----	J. E. Taylor, Schellsburg, -----
	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
6270	Martin's Acid Phosphate, 14%, -----	Edwin Houck, Bangor, -----
6839	Martin's Acid Phosphate, 16%, -----	R. E. Mason, Hatboro, -----
6831	Martin's Acid Phosphate, 16%, -----	Harry Pyle & Sons, Chadds Ford Junction, -----
6011	Martin's Acid Phosphate, 16%, -----	F. Shadle, Klingerstown, -----
	NASSAU FERTILIZER COMPANY, SUB- SIDIARY OF THE AMERICAN AGRI- CULTURAL CHEMICAL CO., NEW YORK, N. Y.	
6995	High Grade Superphosphate, -----	Peter Ace, Tunkhannock, -----
5848	High Grade Superphosphate, -----	Clarence Hartzel, Richmond, -----
6280	Soluble Phosphate, -----	Wm. Olinger, Shoemakersville, -----
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
6419	N. A. C. Brand Acid Phosphate, -----	R. S. Clark, Huntingdon, -----
6301	N. A. C. Brand Acid Phosphate, -----	J. A. Good, Middletown, -----
6408	N. A. C. Brand Acid Phosphate, -----	Harvey Youngman, Shirleysburg, -----
	G. OBER & SONS CO., BALTIMORE, MD.	
6806	Ober's High Grade Acid Phosphate, 16%, --	H. L. Orr, Tyrone, -----
	PATAPSCO GUANO COMPANY, SUBSI- DIARY OF THE AMERICAN AGRICUL- TURAL CHEMICAL CO., BALTIMORE, MD.	
6964	Patapsco High Grade Acid Phosphate, ----	Helsey & Curry, Hummelstown, -----
6117	Patapsco High Grade Acid Phosphate, ----	W. E. Jones, Moscow, -----
6802	Patapsco High Grade Acid Phosphate, ----	W. H. Osburg, Sterling, -----

## PHOSPHATE FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	\$	
7.38	15.10	15.00	14.72	14.00	0.38	1.00	29 00	7031
10.31	18.90	15.00	17.08	14.00	1.82	1.00	27 00	7020
6.77	17.41	16.00	*15.71	16.00	1.70	-----	-----	6533
3.90	17.37	16.00	16.43	16.00	0.94	-----	26 75	7090
4.86	17.85	-----	16.43	16.00	1.42	-----	-----	6274
5.88	18.45	17.00	14.67	16.00	3.78	1.00	27 50	6819
4.43	15.43	-----	*11.68	16.00	3.75	1.00	26 64	5714
5.51	16.20	15.00	15.54	14.00	0.66	1.00	35 00	6035
8.92	14.98	15.00	14.80	14.00	0.18	1.00	25 50	6423
8.91	15.04	15.00	14.30	14.00	0.68	1.00	30 00	6648
8.64	14.57	15.00	13.93	14.00	0.64	1.00	25 50	5970
9.97	16.35	17.00	16.21	16.00	0.14	1.00	29 50	7053
5.01	17.37	17.00	16.81	16.00	0.56	1.00	38 00	6728
6.93	13.23	13.00	12.44	12.00	0.79	1.00	25 50	6704
9.46	12.56	13.00	12.05	12.00	0.51	1.00	27 50	5699
6.46	13.14	13.00	12.97	12.00	0.17	1.00	24 00	6811
5.09	15.32	14.75	14.38	14.00	0.94	0.75	27 75	6270
8.05	17.27	16.75	16.75	16.00	0.52	0.75	27 00	6839
8.01	16.34	16.75	16.15	16.00	0.19	0.75	28 00	6831
9.55	15.42	16.75	*15.29	16.00	0.13	0.75	22 00	6011
4.81	18.13	17.00	16.61	16.00	1.52	1.00	29 00	6995
8.92	17.39	17.00	16.80	16.00	0.59	1.00	26 25	5848
6.51	15.09	15.00	14.44	14.00	0.65	1.00	28 50	6280
8.97	16.33	17.00	16.14	16.00	0.19	1.00	24 50	6419
7.05	17.28	17.00	17.13	16.00	0.15	1.00	24 00	6301
8.64	16.35	17.00	16.16	16.00	0.19	1.00	25 00	6408
6.94	18.42	17.00	17.97	16.00	0.45	1.00	29 00	6806
7.35	17.34	17.00	17.10	16.00	0.24	1.00	30 00	6964
7.71	17.12	17.00	15.95	16.00	1.17	1.00	30 00	6117
7.81	17.71	17.00	16.94	16.00	0.77	1.00	29 25	6802

\*Deficient.

TABLE IV—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
6488	Patapsco Pure Dissolved S. C. Phosphate,	Ackermanville Mfg. Co., Ackermanville,---
6448	Patapsco Pure Dissolved S. C. Phosphate,	Denny & Allison, Hickory, -----
6411	Patapsco Pure Dissolved S. C. Phosphate,	Ross E. Goodman, Huntingdon, -----
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
6148	Piedmont 14% Acid Phosphate, -----	J. E. Dubbs, Bellefonte, -----
	THE POLLOCK FERTILIZER CO., SUB- SIDIARY OF THE AMERICAN AGRI- CULTURAL CHEMICAL CO., BALTI- MORE, MD.	
6812	Dissolved S. C. Phosphate, -----	David & J. B. Findley, Schellsburg, -----
5978	Dissolved S. C. Phosphate, -----	Richard Scully, Pomeroy, -----
6820	High Grade Superphosphate, -----	J. L. Longenecker, Woodbury, -----
5979	High Grade Superphosphate, -----	Richard Scully, Pomeroy, -----
	RASIN-MONUMENTAL COMPANY, BAL- TIMORE, MD.	
5818	Rasin's Acid Phosphate, -----	Kidder & Raymond, Oak Hall Station, --
6910	Rasin's Acid Phosphate, -----	Peffer & Son, Punxsutawney, -----
7099	Rasin's 16% Acid Phosphate, -----	C. M. Jack, Hartstown, -----
7078	Rasin's 16% Acid Phosphate, -----	Leonard Ritter, St. Marys, -----
	READING BONE FERTILIZER CO., READING, PA.	
6483	14% Clear Acid Phosphate, -----	George W. Dilliard, Bethlehem, -----
6797	16% Clear Acid Phosphate, -----	G. B. Correll, Greentown, -----
6707	16% Clear Acid Phosphate, -----	A. N. Hobbs, La Plume, -----
7085	16% Clear Acid Phosphate, -----	George Richards, Smethport, -----
	READING CHEMICAL COMPANY, READING, PA.	
6990	High Grade Phosphate, -----	Leon Ennis, Standing Stone, -----
6377	High Grade Phosphate, -----	C. E. Frazer, Mill Hall, -----
5754	High Grade Phosphate, -----	McConnell Brothers, Hughesville, -----
	ROBERT A. REICHARD, ALLENTOWN, PA.	
9044	Acid Phosphate, -----	James B. Adams, Weatherly, -----
6304	Acid Phosphate, -----	Thomas Beltz, Lehighton, -----
5921	Acid Phosphate, -----	Giant Portland Cement Co., Egypt, -----
	REICHARD HIDE & TALLOW CO., ASHLAND, PA.	
6462	Acid Phosphate, -----	F. E. Houck, Catawissa, -----
6762	Acid Phosphate, -----	John Kunkle, Mahanoy City, -----
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
6827	Royster's 14% Acid Phosphate, -----	Harvey L. Moses, Chester Springs, -----
6967	Royster's 14% Acid Phosphate, -----	Reynoldsville Hardware Co., Reynoldsville.
6174	Royster's 14% Acid Phosphate, -----	A. G. Taylor, Glenville, -----
6380	Royster's High Grade 16% Acid Phosphate,	R. J. Dunham, Wellsboro, -----
6500	Royster's High Grade 16% Acid Phosphate,	Carl Fredell, Mt. Jewett, -----
6991	Royster's High Grade 16% Acid Phosphate,	Wyalusing Hay Co., Wyalusing, -----
	STANDARD GUANO CO., BALTIMORE, MD.	
5922	High Grade 16% Acid Phosphate, -----	Lehigh Portland Cement Co., Allentown.--
6813	High Grade 16% Acid Phosphate, -----	A. G. Richards, New Paris, -----
6884	High Grade 16% Acid Phosphate, -----	N. I. Wilson, Warriors Mark, -----

## PHOSPHATE FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	\$	
5.43	16.28	15.00	15.02	14.00	1.26	1.00	27 00	6488
10.05	14.75	15.00	14.56	14.00	0.19	1.00	30 00	6448
10.21	14.78	15.00	14.65	14.00	0.13	1.00	27 00	6411
6.39	15.84	15.00	14.70	14.00	1.14	1.00	28 98	6148
7.86	15.12	15.00	15.02	14.00	0.10	1.00	24 50	6312
9.95	14.99	15.00	14.90	14.00	0.09	1.00	27 50	5978
10.41	17.12	17.00	17.06	16.00	0.06	1.00	28 50	6520
11.71	14.88	17.00	*14.76	16.00	0.10	1.00	29 00	5979
8.22	16.29	15.00	15.72	14.00	0.57	1.00	27 00	5818
7.88	15.49	15.00	15.27	14.00	0.22	1.00	29 00	6910
6.62	18.39	17.00	18.03	16.00	0.36	1.00	28 00	7069
3.76	18.88	17.00	17.94	16.00	0.94	1.00	30 00	7078
2.88	15.24	15.00	*13.56	14.00	1.68	1.00	26 00	6483
7.36	17.45	17.00	15.84	16.00	1.61	1.00	29 50	6797
5.89	17.62	17.00	16.11	16.00	1.51	1.00	30 00	6707
5.65	17.67	17.00	16.29	16.00	1.38	1.00	27 00	7085
2.12	18.84	17.00	17.99	16.00	0.85	1.00	27 00	6990
7.92	17.64	17.00	16.43	16.00	1.21	1.00	27 50	6377
9.16	17.37	17.00	16.21	16.00	1.16	1.00	28 75	5754
9.03	14.54	15.00	14.06	14.00	0.48	1.00	27 00	6044
3.90	14.66	15.00	14.09	14.00	0.57	1.00	32 00	6504
9.46	13.83	15.00	*13.64	14.00	0.19	1.00	26 90	5921
6.21	17.44	-----	16.67	16.00	0.77	-----	29 50	6462
6.95	17.67	-----	16.74	16.00	0.93	-----	27 00	6762
3.61	15.66	14.50	14.45	14.00	1.21	0.50	29 00	6327
5.44	15.37	14.50	13.84	14.00	1.53	0.50	26 75	6907
5.80	14.96	14.50	13.99	14.00	0.97	0.50	25 00	6174
8.44	17.25	16.50	15.86	16.00	1.39	0.50	29 14	6380
3.41	17.03	16.50	16.70	16.00	0.33	0.50	32 75	6590
6.57	16.62	16.50	*15.52	16.00	1.10	0.50	-----	6991
10.43	17.55	-----	16.34	16.00	1.21	-----	-----	5922
9.13	16.21	16.50	16.85	16.00	0.36	0.50	25 50	6813
6.47	16.88	16.50	16.45	16.00	0.43	0.50	24 00	6984

\*Deficient.

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE SUPERIOR GUANO COMPANY, BALTIMORE, MD.	
6264	16% Acid Phosphate, -----	William Kunkle, Bath, -----
6153	16% Acid Phosphate, -----	C. B. Murphey, Red Lion, -----
	SWIFT & COMPANY, BALTIMORE, MD.	
6381	Swift's Garden City Phosphate, -----	R. J. Dunham, Wellshoro, -----
6914	Swift's Garden City Phosphate, -----	George Maurer, Pitman, -----
6755	Swift's Garden City Phosphate, -----	S. G. Updegraff & Son, Williamsport, -----
6485	Swift's High Grade Acid Phosphate, -----	Nazareth Coal & Lumber Co., Nazareth, -----
6848	Swift's High Grade Acid Phosphate, -----	Adam Schmeil, North Wales, -----
	I. P. THOMAS & SON CO., PHILA- DELPHIA, PA.	
6926	16% Acid Phosphate, -----	Ed. Shuey, Annville, -----
5846	16% Acid Phosphate, -----	George Weidman, Stone Church, -----
5885	16% Acid Phosphate, -----	A. E. Woodruff & Son, Wysox, -----
	THE J. E. TYGERT COMPANY, SUBSI- DIARY OF THE AMERICAN AGRICUL- TURAL CHEMICAL CO., PHILADEL- PHIA, PA.	
6390	14% Acid Phosphate, -----	Hugh Davie Cowan, Mansfield, -----
	VIRGINIA-CAROLINA CHEMICAL CO. OF DELAWARE, BALTIMORE, MD.	
6179	V. C. 16% Acid Phosphate, -----	Blair Knisely, Alum Bank, -----
6986	V. C. 16% Acid Phosphate, -----	George Stevens, Port Matilda, -----
	WASHINGTON, ALEXANDER & COOKE COMPANY, CHARLES TOWN, W. VA.	
5733	W. A. & Co.'s Economy Corn Grower, -----	Farmers Association, Quarryville, -----
6548	W. A. & Co.'s Superphosphate, -----	E. S. Kelley, Gettysburg, -----
5715	W. A. & Co.'s Superphosphate, -----	Spring Grove Farmers Co-operative Asso- ciation, Spring Grove.
	THE ROBERT A. WOOLDRIDGE CO., SUBSIDIARY OF THE AMERICAN AG- RICULTURAL CHEMICAL CO., BALTI- MORE, MD.	
6476	Wooldridge's Dissolved Soluble Phosphate, -----	W. W. Feick, Kutztown, -----
6190	Wooldridge's Florida Acid Phosphate, -----	J. A. Crilly, Imler, -----
6505	Wooldridge's Florida Acid Phosphate, -----	A. C. Dubs, Brillharts, -----
5746	Wooldridge's Florida Acid Phosphate, -----	H. V. Smith, Turbotville, -----
6817	Wooldridge's High Grade Acid Phosphate, -----	Cyrus Brumbaugh, New Enterprise, -----
6189	Wooldridge's High Grade Acid Phosphate, -----	J. A. Crilly, Imler, -----
5747	Wooldridge's High Grade Acid Phosphate, -----	H. V. Smith, Turbotville, -----
	YORK CHEMICAL WORKS, YORK, PA.	
6313	Dempwolf's Dissolved Phosphate, -----	E. D. Greenwalt, Albany, -----
6367	Dempwolf's Dissolved Phosphate, -----	James K. Lewis, Honeybrook, -----
6127	Dempwolf's Dissolved Phosphate, -----	J. W. Sunday, Pine Grove Mills, -----
5872	Dempwolf's Superphosphate, -----	H. A. Craumer, Monroeton, -----
6298	Dempwolf's Superphosphate, -----	M. D. Ebersole, Middletown, -----
6606	Dempwolf's Superphosphate, -----	Putnam & Parker, Columbus, -----
		Average, -----

## FERTILIZERS—Concluded.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	\$	
2.00	17.86	17.00	17.58	16.00	0.28	1.00		6264
10.40	16.75	17.00	*15.76	16.00	0.99	1.00	26 00	6153
4.65	16.42	14.00	14.38	14.00	2.04	-----	27 25	6381
5.58	15.17	14.00	*13.79	14.00	1.38	-----	26 00	6014
4.57	15.84	14.00	14.09	14.00	1.75	-----	30 00	6755
5.43	15.56	16.00	*14.86	16.00	0.70	-----	29 00	6485
3.34	17.09	16.00	*15.70	16.00	1.39	-----	27 00	6848
6.86	17.99	16.50	17.62	16.00	0.37	0.50	27 75	6326
4.29	18.05	16.50	17.78	16.00	0.27	0.50	25 70	5846
3.09	18.59	16.50	17.47	16.00	1.12	0.50	29 00	5885
7.76	15.96	15.00	15.06	14.00	0.89	1.00	27 59	6390
9.85	16.54	17.00	16.40	16.00	0.14	1.00	30 00	6179
8.23	16.24	17.00	16.18	16.00	0.06	1.00	29 00	6086
4.06	12.12	13.00	11.88	12.00	0.24	1.00	25 75	5733
6.32	16.30	17.00	16.07	16.00	0.23	1.00	26 50	6548
7.56	16.40	17.00	16.05	16.00	0.09	1.00	24 00	5715
6.16	14.61	11.00	14.34	10.00	0.27	1.00	25 00	6476
9.42	14.91	15.00	14.76	14.00	0.15	1.00	25 00	6190
9.12	14.82	15.00	14.23	14.00	0.59	1.00	25 50	6565
7.58	15.21	15.00	15.07	14.00	0.14	1.00	27 00	5746
7.35	17.49	17.00	17.32	16.00	0.17	1.00	29 00	6817
10.14	17.51	17.00	17.42	16.00	0.09	1.00	27 30	6189
8.01	17.68	17.00	17.53	16.00	0.15	1.00	28 00	5747
9.40	15.59	-----	15.16	14.00	0.43	-----	25 00	6613
8.43	14.67	-----	14.10	14.00	0.57	-----	25 00	6367
8.05	15.13	-----	14.80	14.00	0.33	-----	26 00	6127
8.69	17.13	-----	16.85	16.00	0.28	-----	29 00	5872
6.16	17.97	-----	17.55	16.00	0.42	-----	27 50	6298
7.34	17.17	-----	17.00	16.00	0.17	-----	26 35	6006
7.05	16.35	-----	15.58	-----	0.77	-----	27 89	-----

TABLE NO. V.—ROCK AND  
Furnishing Phosphoric

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
5873	Dissolved Phosphate and Potash, -----	Billings & Kildar, New Albany, -----
6751	Dissolved Phosphate and Potash, -----	George S. Chalfont, Milton, -----
6238	Dissolved Phosphate and Potash, -----	J. H. Kelly, Littlestown, -----
6305	Star Phosphate with Potash, -----	S. A. Fishburn, Harrisburg, -----
6555	Star Phosphate with Potash, -----	A. G. Gobrecht, Abbottstown, -----
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
7050	Phosphate and Potash No. 1, 0-10-2, -----	Jefferson Altfather, Berlin, -----
6450	Phosphate and Potash No. 1, 0-10-2, -----	A. M. Frederick, Jr., Fairchance, -----
6322	Phosphate and Potash No. 1, 0-10-2, -----	Wm. Gates Estate, Kittanning, -----
6592	Phosphate and Potash No. 1, 0-10-2, -----	Kane Milling Grocery Co., Kane, -----
6057	Phosphate and Potash No. 1, 0-10-2, -----	Joseph C. Walker & Sons Co., Gap, -----
	ATLANTIC FERTILIZER WORKS (SWIFT & COMPANY, OWNERS), BALTIMORE, MD.	
5963	Atlantic Farmers Alkaline Mixture, 0-10-2, -----	M. Getty, Orangeville, -----
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
6750	Bowker's Superphosphate with Potash, -----	Willis Koch, Pottsgrove, -----
6233	Bowker's Superphosphate with Potash, -----	Wm. Kunkle, Bath, -----
6018	Bowker's Superphosphate with Potash, -----	George Maurer, Pitman, -----
	THE CENTRAL CHEMICAL COMPANY (THOMAS FERTILIZER WORKS), HAGERSTOWN, MD.	
7065	O. C. C. Commonwealth, -----	E. S. Thomas, Hollsopple, -----
	THE CHESAPEAKE CHEMICAL COMPANY, BALTIMORE, MD.	
6581	Chesapeake Alkaline 10 & 2, -----	Anderson Brothers, New Park, -----
	COLUMBIA GUANO COMPANY, BALTIMORE, MD.	
6275	Columbia Jack Tar Potash Mixture, -----	J. R. Fisher, Douglassville, -----
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
6377	Soluble 8 & 2, -----	J. O. Leib & Co., Stewartstown, -----
	M. P. HUBBARD CO., INC., BALTIMORE, MD.	
6380	Hubbard's 8-2 Mixture, -----	C. S. Chamberlain, Sabinsville, -----
6381	Hubbard's 10-1 Mixture, -----	C. S. Chamberlain, Sabinsville, -----
6235	Hubbard's 10-1 Mixture, -----	M. J. Sheffer, Hanover, -----
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.	
6935	Hubbard's Phosphate and Potash, -----	J. F. Crissman, South Fork, -----
5717	Hubbard's Phosphate and Potash, -----	J. Emery Moul, Ironors, -----
	INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
6121	Buffalo Phosphate and Potash, -----	Giles Clark, Scranton, -----
6207	Buffalo Phosphate and Potash, -----	A. C. Daugherty, Grove City, -----

## POTASH FERTILIZERS.

## Acid and Potash.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present at muriate.	Present at sulphate.		
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	\$	
6.96	11.28	11.00	10.57	10.00	0.71	1.00	*1.65	2.00	1.00	0.65	39 00	5873
4.96	11.91	11.00	10.49	10.00	1.42	1.00	*1.34	2.00	1.34	-----	38 75	6751
7.65	11.06	11.00	10.50	10.00	0.56	1.00	2.02	2.00	-----	2.02	35 00	6238
4.82	11.47	11.00	*9.77	10.00	1.70	1.00	1.03	1.00	0.70	0.33	30 75	6305
4.52	11.97	11.00	10.95	10.00	1.02	1.00	1.66	1.00	-----	1.06	-----	6555
5.15	11.53	10.50	10.60	10.00	0.93	0.50	*1.78	2.00	-----	1.78	37 00	7050
5.37	11.08	10.50	10.07	10.00	1.01	0.50	*1.63	2.00	-----	1.63	44 00	6450
4.34	11.47	10.50	10.48	10.00	0.99	0.50	*1.69	2.00	-----	1.69	39 00	6322
4.35	10.77	10.50	*9.79	10.00	0.98	6.50	*1.63	2.00	-----	1.63	42 00	6592
4.39	11.19	10.50	10.08	10.00	1.11	0.50	*1.74	2.00	0.50	1.24	38 00	6057
5.78	11.66	10.00	10.23	10.00	1.43	-----	*1.74	2.00	1.74	-----	35 00	5963
5.98	11.11	11.00	9.99	10.00	1.12	1.00	*1.59	2.00	1.59	-----	37 50	6750
7.66	12.34	11.00	11.68	10.00	0.60	1.00	1.95	2.00	0.80	1.15	38 00	6268
6.32	10.20	11.00	*9.69	10.00	0.51	1.00	*1.72	2.00	-----	1.72	37 60	6018
3.38	9.39	-----	*8.42	10.00	0.97	-----	*1.36	2.00	1.36	-----	32 50	7065
7.51	10.97	11.00	9.85	10.00	1.12	1.00	1.96	2.00	1.96	-----	36 00	6581
5.70	10.65	10.50	*9.68	10.00	0.97	0.50	1.81	2.00	-----	1.81	38 75	6275
5.43	8.66	9.00	*7.72	8.00	0.94	1.00	2.02	2.00	2.02	-----	34 00	6577
6.12	9.58	9.00	8.94	8.00	0.64	1.00	2.00	2.00	-----	2.00	35 00	6880
6.21	11.24	11.00	10.42	10.00	0.82	1.00	1.22	1.00	0.50	0.72	31 00	6881
8.26	10.89	11.00	10.51	10.00	0.38	1.00	1.36	1.00	-----	1.36	31 32	6235
7.53	14.89	11.60	13.93	10.00	0.96	1.00	2.64	2.00	2.64	-----	40 00	6935
7.14	11.45	11.00	10.60	10.00	0.85	1.00	2.13	2.00	2.13	-----	36 00	5717
9.25	10.28	11.00	*9.20	10.00	1.08	1.00	2.23	2.00	2.23	-----	42 00	6121
6.87	11.11	11.00	10.06	10.00	1.05	1.00	1.82	2.00	1.82	-----	40 00	6207

\*Deficient.

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	<b>LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.</b>	
6132	Lister's Grain and Grass Fertilizer, 1916,---	H. M. Hain, Milroy, -----
5874	Lister's Grain and Grass Fertilizer, 1916,---	N. J. Norton, New Albany, -----
5700	Lister's Grain and Grass Fertilizer, 1916,---	W. W. Schriver, Dillsburg, -----
	<b>PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.</b>	
7042	Baltimore Soluble Phosphate, -----	D. S. Gnagey, Meyersdale, -----
6747	Patapsco Soluble Phosphate and Potash,---	Wm. E. Boyer, Mooresburg, -----
6936	Patapsco Soluble Phosphate and Potash,---	K. L. McClain & Co., Tyrone, -----
6308	Patapsco Soluble Phosphate and Potash,---	Mock & Hartman, Harrisburg, -----
	<b>PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.</b>	
6160	Piedmont Potash Mixture, -----	A. M. Grove & Co., Muddy Creek Forks, -----
6700	Piedmont Soluble Phosphate and Potash,---	Frank Allen, Allenwood, -----
6159	Piedmont Soluble Phosphate and Potash,---	A. M. Grove & Co., Muddy Creek Forks, -----
6659	Piedmont Soluble Phosphate and Potash,---	H. E. Mullen, Christiana, -----
	<b>ROBERT A. REICHARD, ALLENTOWN, PA.</b>	
6043	American Eagle Phosphate, -----	Carbon County Poorhouse, Weatherly, -----
5860	American Eagle Phosphate, -----	Wm. Hostenbader, Nazareth, -----
6459	American Eagle Phosphate, -----	S. F. Rarig, Catawissa, -----
	<b>F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.</b>	
5756	Royster's Cloverdale Potash Mixture, -----	McConnell Brothers, Hughesville, -----
6828	Royster's Cloverdale Potash Mixture, -----	Harvey L. Moses, Chester Springs, -----
6596	Royster's Cloverdale Potash Mixture, -----	Smith Brothers, Bradford, -----
6458	Royster's Harmony Potash Mixture, -----	S. F. Rarig, Catawissa, -----
6540	Royster's Harmony Potash Mixture, -----	W. T. Roth, Conyngham, -----
6432	Royster's Old Glory Potash Mixture, -----	Anderson & Loucks Hardware Co., Connellsville, -----
6694	Royster's Old Glory Potash Mixture, -----	Francis T. Baker, Lewisburg, -----
6295	Royster's Old Glory Potash Mixture, -----	O. A. Kershner, Hamburg, -----
	<b>THE SCOTT FERTILIZER COMPANY, ELKTON, MD.</b>	
6852	Scott's Soluble Phosphate and Potash, -----	J. W. Brunner & Co., Belfry, -----
	<b>SWIFT &amp; COMPANY, BALTIMORE, MD.</b>	
5878	Swift's Special Phosphate and Potash, -----	E. H. Johnson, Ulster, -----
6001	Swift's Special Phosphate and Potash, -----	M. S. Schwalm, Hegins, -----
6161	Swift's Wheat Grower Phosphate and Potash.	A. M. Grove & Co., Muddy Creek Forks, -----
	<b>I. P. THOMAS &amp; SON CO., PHILADELPHIA, PA.</b>	
6239	Alkaline Fertilizer, -----	J. W. Duttera, Jr., New Oxford, -----
6433	Alkaline Fertilizer, -----	Frisbee Hardware Co., Connellsville, -----
5884	Alkaline Fertilizer, -----	A. E. Woodruff, Wysox, -----
5828	Thomas Potash Mixture, -----	L. S. Kinzer, Mifflintown, -----
6455	Thomas Potash Mixture, -----	C. W. Thomas, Danville, -----
	<b>VIRGINIA-CAROLINA CHEMICAL CO. OF DELAWARE, BALTIMORE, MD.</b>	
6985	V-C Standard Phosphate and Potash, -----	George Stevens, Port Matilda, -----

## POTASH FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present at muriate.	Present at sulphate.		
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	\$	
7.61	10.98	11.00	*9.79	10.00	1.19	1.00	2.00	2.00	0.80	1.20	37 40	6132
8.87	11.02	11.00	10.56	10.00	0.46	1.00	1.88	2.00	1.02	0.86	39 50	5874
8.29	11.28	11.00	10.17	10.00	1.11	1.00	2.33	2.00	0.70	1.63	39 06	5700
10.04	11.99	12.00	11.65	10.00	0.34	1.00	*1.69	2.00	0.80	0.89	38 00	7042
7.88	10.98	11.00	10.69	10.00	0.29	1.00	2.15	2.00	-----	2.15	36 25	6747
7.44	11.20	11.00	10.15	10.00	1.05	1.00	*1.71	2.00	0.50	1.21	38 50	6936
4.97	11.05	11.00	10.66	10.00	0.99	1.00	2.05	2.00	0.80	1.25	36 00	6308
4.89	10.63	11.00	10.04	10.00	0.59	1.00	1.10	1.00	0.50	0.60	29 56	6160
4.39	8.76	9.00	8.49	8.00	0.27	1.00	*1.47	2.00	1.47	-----	37 50	6700
5.22	8.85	9.00	8.02	8.00	0.83	1.00	2.00	2.00	2.00	-----	33 50	6159
3.00	8.79	9.00	8.31	8.00	0.48	1.00	*0.97	2.00	0.97	-----	34 00	6059
2.41	11.33	11.00	10.62	10.00	0.71	1.00	*1.78	2.00	-----	1.78	38 00	6043
2.25	10.88	11.00	10.65	10.00	0.83	1.00	*1.71	2.00	-----	1.71	36 00	5860
1.93	11.20	11.00	10.31	10.00	0.89	1.00	*1.76	2.00	-----	1.76	36 25	6459
6.07	10.23	10.50	*9.29	10.00	0.94	0.50	1.81	2.00	-----	1.81	37 25	5756
7.33	10.47	10.50	9.68	10.00	0.79	0.50	*1.51	2.00	-----	1.51	38 50	6328
6.92	11.24	10.50	10.49	10.00	0.75	0.50	1.94	2.00	-----	1.94	43 25	6596
6.69	11.72	12.50	*10.83	12.00	0.89	0.50	1.81	2.00	-----	1.81	36 75	6458
9.57	12.96	12.50	11.94	12.00	1.02	0.50	1.88	2.00	-----	1.88	42 00	6540
6.91	10.22	10.50	*9.39	10.00	0.83	0.50	1.02	1.00	-----	1.62	38 00	6432
3.64	10.94	10.50	*9.79	10.00	1.15	0.50	0.82	1.00	0.82	-----	31 50	6694
6.35	10.82	10.50	9.91	10.00	0.91	0.50	1.01	1.00	-----	1.01	39 00	6295
7.14	13.41	14.00	12.26	12.00	1.15	2.00	1.92	2.00	-----	1.92	39 00	6852
7.62	10.82	10.00	9.88	10.00	0.94	-----	2.43	2.00	2.43	-----	35 50	5878
7.76	11.16	10.00	10.52	10.00	0.64	-----	2.36	2.00	2.36	-----	37 00	6001
9.08	13.41	12.00	12.31	12.00	1.10	-----	*1.79	2.00	1.50	0.29	37 50	6161
9.28	11.12	10.50	*8.53	10.00	2.59	0.50	2.04	2.00	-----	2.04	33 30	6239
8.02	11.97	10.50	10.13	10.00	1.84	0.50	1.92	2.00	0.70	1.22	50 00	6433
8.27	12.00	10.50	10.12	10.00	1.88	0.50	*1.76	2.00	0.80	0.96	37 00	5884
8.89	14.21	12.50	11.98	12.00	2.23	0.50	1.09	1.00	0.60	0.49	30 75	5828
5.21	12.97	12.50	*11.06	12.00	1.91	0.50	0.87	1.00	-----	0.87	-----	6455
8.74	11.84	11.00	10.83	10.00	1.01	1.00	*1.32	2.00	1.32	-----	38 06	6986

\*Deficient.

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE WORLD'S FERTILIZER PROCESS CO., SHARPSBURG, PA.	
7028	Sur-Gro, -----	D. G. Ramsey & Sons, New Castle, -----
5770	Sur-Gro, -----	Thompson & Glenn, Butler, -----
	YORK CHEMICAL WORKS, YORK, PA.	
6931	Dempwolf's Ten & Two, -----	Wallace Sherbine, Wilmore, -----
		Average, -----

## POTASH FERTILIZERS—Concluded.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as murate.	Present as sulphate.		
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
†0.75 †4.37	†0.27 †1.01	0.50 -----	*†0.19 †0.41	0.50 0.50	†0.08 †0.60	----- -----	*†1.04 *†1.61	2.00 2.00	----- -----	1.04 1.61	†130 00 †80 00	7028 5770
5.39	10.37	-----	9.92	10.00	0.45	-----	2.21	2.00	0.55	* 1.66	40 00	6931
6.37	11.19	-----	10.21	-----	0.98	-----	1 71	-----	-----	-----	37 18	-----

\*Deficient.

†Excluded from average.

TABLE NO. VI.—MISCELL

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
<b>NITRATE OF SODA.</b>		
	<b>THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.</b>	
5726	Nitrate of Soda, -----	W. W. Gipple, Brunnersville, -----
6355	Nitrate of Soda, -----	A. K. Kulp, Pottstown, -----
6941	Nitrate of Soda, -----	H. L. Orr, Troyne, -----
	<b>BAUGH &amp; SONS COMPANY, PHILADELPHIA, PA.</b>	
6009	Nitrate of Soda, -----	C. G. Updegrove, Sacramento, -----
	<b>THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y.</b>	
6520	Nitrate of Soda, -----	L. A. Steigerwalt, Andreas, -----
	<b>GRIFFITH &amp; BOYD COMPANY, BALTIMORE, MD.</b>	
5753	Nitrate of Soda, -----	J. S. Artley, Muncy, -----
	<b>THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.</b>	
5969	Nitrate of Soda, -----	Whitenight & Kschinka, Bloomsburg, -----
	<b>LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.</b>	
6729	Nitrate of Soda, -----	W. S. Vansickler, Varden, -----
	<b>NITRATE AGENCIES COMPANY, NEW YORK, N. Y.</b>	
6302	N. A. C. Brand Nitrate of Soda, -----	J. A. Good, Middletown, -----
	<b>RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.</b>	
5959	Nitrate of Soda, -----	H. B. Low & Son, Orangeville, -----
	<b>READING BONE FERTILIZER CO., READING, PA.</b>	
5676	Nitrate of Soda, -----	A. M. Brandt, Campbelltown, -----
6715	Nitrate of Soda, -----	L. G. Colvin, Dalton, -----
6709	Nitrate of Soda, -----	A. N. Hobbs, LaPlume, -----
		Average, -----
<b>TANKAGE.</b>		
	<b>BAUGH &amp; SONS COMPANY, PHILADELPHIA, PA.</b>	
6151	High Grade Ground Tankage, -----	G. B. Murphey, Red Lion, -----
	<b>THE LEBANON FERTILIZER WORKS, LEBANON, P.</b>	
5731	Levan's Animal Tankage, -----	Farmers Association, Quarryville, -----
	<b>NITRATE AGENCIES COMPANY, NEW YORK, N. Y.</b>	
6300	N. A. C. Brand High Grade Ground Tankage, -----	J. A. Good, Middletown, -----
	<b>REICHARD HIDE &amp; TALLOW CO., ASHLAND, PA.</b>	
6465	Tankage, -----	John E. Billig, Catawissa, -----
6767	Tankage, -----	John Kunkle, Mahanoy City, -----
		Average, -----

## ANEIOUS FERTILIZERS.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.			Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	TOTAL.		AVAILA- BLE.		INSOLU- BLE.		Found.	Guaranteed.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.					
%	%	%	%	%	%	%	%	%	%	%	%	\$	
0.89	15.29	15.00										90 00	5726
1.42	15.80	15.00										104 00	6355
1.39	15.86	15.00										125 00	6941
2.03	15.33	15.23										104 00	6009
1.92	15.96	14.81										95 00	6320
1.65	15.67	14.80										per lb.	5753
2.59	15.46	15.22										10c	5969
2.02	15.66	15.00										110 00	6729
1.76	15.78	15.00										100 00	6302
1.36	15.06	14.82										98 00	5959
1.69	15.22	15.00										100 00	5776
1.77	15.22	15.00										100 00	6715
1.35	15.88	15.00										110 00	6709
1.68	15.51											103 27	
17.47	6.73	5.76	11.85	3.50								75 00	6151
9.86	4.85	4.94	10.11	9.00								86 00	5731
8.17	8.29	8.22	5.38	4.57								95 00	6300
15.62	*5.15	6.58	18.16									60 00	6465
9.55	*5.23	6.58	15.26									62 00	6763
12.12	6.05		12.21									74 40	

\*Deficient.

TABLE VI.—MISCELLANEOUS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
MISCELLANEOUS.		
6873	THE BERG COMPANY, PHILADELPHIA, PA. Berg's Animal Bone and Meat, -----	F. D. Hartzel & Sons, Chalfont, -----
6981 6745	THE FERTILE CHEMICAL CO., CLEVELAND, OHIO. Lime Fertile, ----- Lime Fertile, -----	Diehl, Omwake & Diehl, Chambersburg, --- The I. W. Scott Co., Pittsburgh, -----
7093	SWIFT & COMPANY, BALTIMORE, MD. Swift's Tankage & Phosphate, -----	F. P. Allen & Co., Titusville, -----
6867	WETHERBEE, SHERMAN & COMPANY, PORT HENRY, N. Y. Barium Phosphate, -----	H. E. Grates, Perkaspie, -----
5772	THE WORLD'S FERTILIZER PROCESS CO., SHARPSBURG, PA. Success Plant Grower, -----	Thompson & Glenn, Butler, -----

## FERTILIZERS—Concluded.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.			Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	TOTAL.		AVAILA- BLE.		INSOLU- BLE.		Found.	Guaranteed.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.					
%	%	%	%	%	%	%	%	%	%	%	%	\$	
6.68	3.26	3.30	18.29	17.60	-----	-----	-----	-----	-----	-----	-----	60 00	6873
0.25	-----	-----	6.47	3.00	-----	-----	-----	-----	-----	-----	-----	30 00	6981
0.13	-----	-----	*2.76	3.00	-----	-----	-----	-----	-----	-----	-----	35 00	6745
6.15	1.05	0.82	13.32	-----	12.69	12.00	0.63	-----	-----	-----	-----	36 00	7093
0.05	-----	-----	16.33	16.00	-----	-----	-----	-----	-----	-----	-----	-----	6867
2.53	-----	-----	-----	-----	-----	-----	-----	-----	1.65	1.00	1.65	33.00	5772

\*Deficient.

